

Alabama's **TREASURED** Forests

An Alabama Forestry Commission Publication

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- **Watersheds**
- **Water Quality Services**
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Fall 2008

A MESSAGE FROM ALABAMA'S STATE FORESTER



Linda Casey,
State Forester

There is no doubt that here in Alabama and across the nation, market forces are creating changes in how we view traditional forest product markets. The major changes are being driven by the emerging biomass energy and carbon sequestration markets.

Energy costs are escalating, almost on a daily basis, and any real or perceived negative impact to supply results in quick and often, significant price increases. There is a frenzy of activity to find alternative energy sources to replace or reduce the consumption of oil. One such alternative is woody biomass. Another is the emerging Carbon Sequestration market.

Carbon sequestration refers to the provision of long-term storage of carbon in forests, soils, underground, and oceans. One of the best and most efficient sequesters of carbon is our forests. Everyone knows that in the process of photosynthesis, plants take in lots of carbon dioxide from the air. Once inside the leaves, carbon becomes the building block of the plant tissue and is stored (sequestered) above and below ground.

After many years of discussion, the establishment of a market to increase carbon sequestration is slowly emerging here in the United States. Currently, this market is strictly voluntary and is driven by companies who want to “go green” to enhance their public image. Companies will purchase “credits” (a defined amount of sequestered carbon) to offset their carbon emissions. Because the carbon market is emerging and voluntary, there are several reasons that forest landowners should proceed cautiously who have carbon credits to sell.

First, most everyone knows that demand and supply generally establishes price. Demand is intermittent and supply is unknown at this time. Hence, price can be very volatile. Secondly, in many areas, protocols have not been established that will ensure sellers’ interests are protected by clearly laying out what is expected and required of the landowner, aggregators, and verifiers. Most small landowners have questions about how the whole process works such as, “Will planned forest management activities need to be changed? How much will I receive for my carbon tons if there is legislation requiring a company to purchase sequestered carbon tons versus a voluntary approach? etc.”

The Alabama Forestry Commission (AFC) believes the Carbon Sequestration market has the potential to provide landowners another opportunity to increase their forest investment financial return. At the same time, like any new market, it’s important that sellers take the time to educate themselves about the market and what steps they need to take to ensure their interests are protected. As long as the market is voluntary, there is ample time for landowners to go slowly and learn as much about this new market as they can. Please see pages 10-11 for an article on carbon sequestration. In the next few weeks, the AFC will be providing additional information on our website at www.forestry.alabama.gov. Additionally, if you have a specific question or concern, please contact an AFC representative in your county.

Linda Casey



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Cover: The cascading waters of Noccalula Falls in Etowah County provide a breathtaking example of Alabama's rich natural resources. The falls plummet 90 feet over Lookout Mountain ledge into the beautiful lush ravine below.
Photo by Brad Fite

Background this page: Another example of Alabama's abundant water resources, this meandering creek runs through the Helene Mosley Memorial Award winning property of Chuck and Lauren Weldon in Coosa County.
Photo by Michael Kyser

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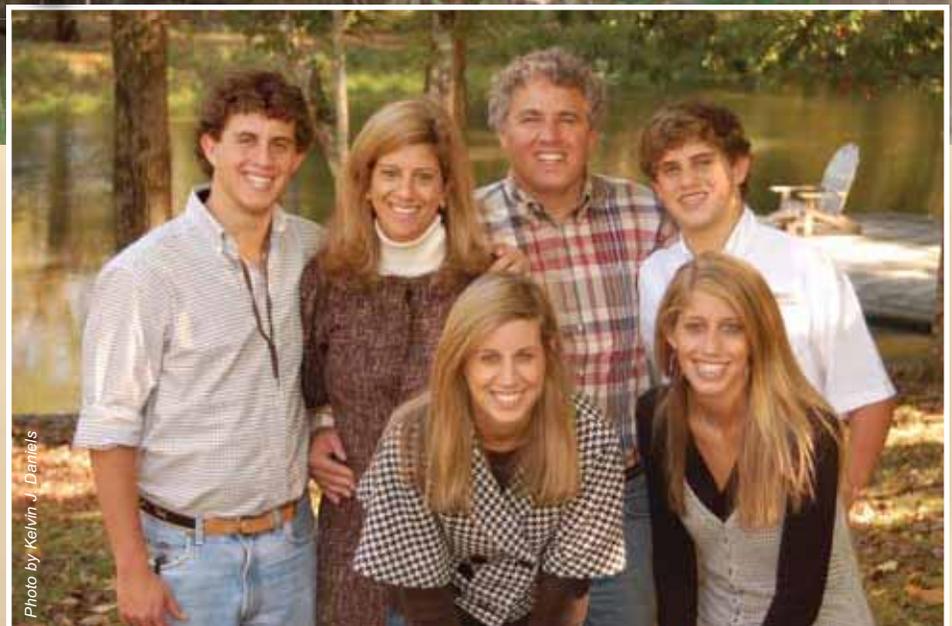
Making Memories

By Elishia Ballentine, Editor

The Weldens wanted a place to take their four children – not only a getaway where they would be able to leave all the worries of the world behind and enjoy the outdoors, but also somewhere to spend quality, one-on-one time with the kids and continue to grow together as a family. “Although the lake is a beautiful place and lots of fun, I chose to look elsewhere,” Chuck Welden said. “At the lake there is so much competition . . . with boats and jet skis, going out at night, kids in one room playing Nintendo, and adults in another room watching TV. There’s just no interaction; it’s almost as if you lose control.”

It was a time when all of their friends were buying beach condos and lake houses. That seemed like a pretty good idea to her too, Lauren Welden admits, until one Sunday afternoon in 1992 when her husband brought her down to look at the Coosa County property for the first time. Finding the farm absolutely breathtaking, she agreed with him that they should purchase it. It was then that the couple committed to doing something different with

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their family. In fact, for the first 15 years after purchasing the farm, there was no television. Instead, they played games – together. As Lauren put it, they made memories.

Along the way, as the children were growing up, Chuck and Lauren also built a showplace. This year, they were recognized for their efforts with the Helene Mosley Memorial TREASURE Forest Award.

After the initial purchase, they took a big map of the area, and purchasing plots

here and there when possible, pieced it together like a giant jigsaw puzzle. The previous owner of the original 330 acres had cut and thinned a lot of trees and replanted, but he did not hunt, nor had he actually “managed” for wildlife or timber value. The Weldens immediately started managing for both, and in the beginning, planted 100 acres of loblolly.

Realizing they needed something more for recreational value as well as provide a friendlier habitat for quail, turkey, and deer, they later planted 600 acres of long-

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Photo by Kelvin J. Daniels

Managing property such as this would be impossible without the assistance of qualified professionals, according to landowner Chuck Welden (front). He credits (l to r) Joel Glover of the Alabama Department of Conservation, Wildlife and Fisheries Division; Annette Spivey with the Natural Resources Conservation Service; Roger Vines of the Alabama Cooperative Extension System; Blake Kelly, with the Alabama Forestry Commission; Doug McConnell and Sarah Baldwin, private forestry consultants.

leaf. Striving for a balanced management plan, they began constructing diverse environments with wildlife and timber management complementing each other. They are now seeing much better quality deer; the average size of both bucks and does is improving every year, particularly the last five years.

Although Chuck had thought thinning pines was a bad decision, it has turned out to be rewarding, both for wildlife viewing and hunting. He said that working with Joel Glover of the Alabama Department of Conservation, Wildlife and Fisheries Division, taught him two things. “First, he reminded us of the one ingredient that is sometimes forgotten: sunlight. The second point was that **diversity** is the key . . . edges really matter! We wanted to focus on quail and turkey, so Joel advised us to plant chufa fields, Egyptian wheat, and partridge peas. Maintaining SMZs (stream management zones) has also shown huge dividends.”

Regarding other forestry decisions, Chuck recognized the recommendations he received from Blake Kelly, Coosa County Forester with the Alabama Forestry Commission, as well as private foresters/consultants: Sarah Baldwin, Doug McConnell, and Ted DeVos.

Weldon went on to say that in his profession as an attorney he had learned, “Success does not come by accident – it only comes with having the right team. This works in business and real estate, and the same philosophy holds true on this farm. We’ve been blessed with a super management team. That’s why it looks so good! Managing property such as this would be impossible without the help of some really qualified people.”

One such person is Owen Smith, retired after 32 years with the Department of Agriculture. “To say that he can run a tractor and knows what to plant, when to plant, and where to plant it is an understatement.” Another important member of the team is Donald Jennings, who takes care of the cabin and all the outbuildings. He has built and maintains tree houses, playhouses, bridges, and a fire pit.

Bill Dark of S.W. Dark Construction, who has been building ponds since 1947, was also acknowledged by Chuck. When getting ready to lay out the pond, they tried to take full advantage of

the topography of the land. Along the edge, half of the pond is grass and the other half is either hardwoods or longleaf, alternated not only for scenic value, but also to be quality habitat for ducks, insects, and other wildlife as well.

Weldon credited Roger Vines of the Alabama Cooperative Extension System and Auburn University for assistance with creating the “frog pond.” This turned out to be a rather complicated project that took a lot of research. It later served as the backdrop for an out-of-the-ordinary landowner tour that was held after dark one night!

Additionally, the family has hosted two other (daytime) TREASURE Forest landowner meetings. A number of different hunting trips and events for the Forestry Commission and Alabama Wildlife Federation have taken place on the property, where people came together to discuss issues concerning the state’s wildlife and forests. Coosa County’s FFA wildlife judging teams have often used the farm for educational purposes. The Weldens also host several missionary and church retreats here each year.

The farm’s diversity readily lends itself to such events because there is so much to do, according to Chuck. Not only has his own family had a great time roaming and discovering all these things over the years,



Photo by Elishia Ballentine



Photo by Elishia Ballentine

but they also loved sharing it with good friends. In addition to exploring the woods, ponds, and creek, there's the unique and incredible history of the place . . . adjacent to the cabin are ruins from a textile mill built in the 1840s by a Colonel Bradford, one of the earliest such factories in the state. The old "Central Plank Road" that cuts through the heart of the property was the first road in Alabama that was not dirt, running from Winterboro to Montgomery as a means of transporting cotton to market. There's also a gold mine from the 1840s; Washington Academy which served as an 1840s Masonic Lodge, and an old cemetery dating back to the 1850s. Plus, there's the old log cabin that Lauren bought as a surprise for Chuck's 40th birthday. She had it disassembled, brought

to the property, then re-assembled on the banks of the creek!

Lauren says spending time with the children on this TREASURE Forest farm has created a unique situation with their family. "All the memories – the wholesomeness – seem to have really cultivated in the children an appreciation for the outdoors, and life in general."

"Stewardship is not for just the short time we'll be on earth, but a legacy we will leave our children and grandchildren. We realize we've been blessed with opportunities and the ability to even own a place such as this," remarked Chuck. "However, we also understand that it's important to remember to worship the Creator, not the creation." 🙏



Photo by Michael Kyser



Photo by Elishia Ballentine



American Tree Farm System

1111 Nineteenth Street, NW, Suite 780 • Washington, D.C. 20036 • Phone 202.463.2462 • Fax 202.463.2461

August 7, 2008

To All Tree Farm Leadership:

At 9:49 AM EST, Thursday, August 7, 2008, the threshold vote for PEFC endorsement was received at PEFC Council, Geneva, Switzerland. With this vote, the American Tree Farm System is now formally recognized and endorsed as an internationally credible sustainable forest management certification system.

This shining achievement belongs to each and every one of you who shouldered us through this nine year endeavor. You all have dedicated countless hours to the American Tree Farm System, many of you sacrificing your own personal time and expense because you believed in the American Tree Farm System and the values and principles it stands for.

This path has not been easy and it has involved much change, but the change has brought its hard-earned benefits. This recognition now opens the door to new markets abroad and on shore. All ready many nations are setting procurement policies that would have barred our forest owners' products from their markets. As future markets of other non-timber products emerge such as carbon and bio-fuels, international certification endorsement is materializing as a prerequisite for entrance.

Although I am personally proud of this achievement, I am most proud of having the honor to be associated with so many of you whose dedication and devotion to the health of our family forest lands has brought our Tree Farmers to this pinnacle.

I give my heartfelt thanks to you all and my congratulations on a job well done.

Sincerely,

Bob Simpson
Senior Vice President
Center for Family Forests

STEWARDSHIP IN ALABAMA

An Explanation of Available Programs and the AFC's Role in These Programs

By John Pirtle, Northeast Regional Forester, Alabama Forestry Commission

If you look up stewardship in the dictionary, you will find the following definition: (1) "Conducting, supervising, or managing of something; especially: the careful and responsible management of something entrusted to one's care." (*Webster*) (2) "The management and/or care for resources for which one has no ownership." (*Wikipedia*)

A simple definition I have heard used by many forest landowners in Alabama is, "Do what is necessary to ensure you leave your forest to future generations in better shape than you received it." Hopefully, all landowners reading this article are already committed to doing just that.

Alabama's Approach to Stewardship

The Alabama Forestry Commission (AFC) is committed to helping Alabama's forest landowners be "good stewards" of their land. We do this by providing free forest management advice and then recognizing landowners who are proven to be "good stewards." The three programs that the Commission uses to promote "good stewardship" and sustainability of our forestlands are: the USDA Forest Service Forest Stewardship Program; the American

Forest Foundation Tree Farm Program; and the Alabama Natural Resources Council TREASURE Forest Program.

USDA Forest Service Forest Stewardship Program

Congress passed the Cooperative Forestry Assistance Act of 1978, authorizing the Forest Stewardship Program. This provided technical assistance – through state forestry agency partners – to non-industrial private forest owners to encourage and enable active long-term forest management. A primary focus of the Forest Stewardship Program is the development of comprehensive, multi-resource management plans that provide landowners with the information they need to manage their forests for a variety of products and services. Established and implemented nationally in 1991, this program used the Alabama TREASURE Forest Program as a base guide for its development.

American Forest Foundation Tree Farm Program

The American Forest Foundation Tree Farm Program was established in 1941 in response to concerns that America's private forests were being cut at unsustainable rates without reforestation. The first Tree Farm was designated in Washington





Photo by Kelvin J. Daniels

The Alabama Forestry Commission's Role in Stewardship

If you as a forest landowner are interested in being recognized by one of these programs, or are just interested in obtaining management advice on your property, contact your local Alabama Forestry Commission office, or go to our website, www.forestry.alabama.gov, and click on the "Contact Us" tab. One of our foresters will schedule a visit to your forest and prepare a Forest Stewardship Plan for you at no cost. Each of the three programs mentioned above requires an approved Forest Stewardship Plan. These Forest Stewardship Plans are tailored for each individual parcel of forestland, based on the management objectives the landowner

desires to achieve. These objectives can include timber income, wildlife habitat, recreation, aesthetics, protection of historic and culturally important sites, and environmental concerns. Whatever your reason for owning forestland, remember the Alabama Forestry Commission is committed to helping you manage your forests using a stewardship ethic to meet the needs of the present, without compromising the ability of future generations to meet their own needs. 🌲

State. The Tree Farm's purpose was to demonstrate sound forest management practices to area landowners.

The Tree Farm Program has evolved over the years and today meets the same standards and guidelines of the USDA Forest Service Forest Stewardship Program. However, unlike the Forest Stewardship Program and the TREASURE Forest Program, Tree Farms are recognized as "Certified Sustainable Forests" by the PEFC Council (Programme for the Endorsement of Forest Certification schemes). Founded in 1999, the PEFC Council is an independent, non-profit, non-governmental organization that promotes sustainably managed forests through independent third party certification. The PEFC provides an assurance mechanism to purchasers of wood and paper products that they are promoting the sustainable management of forests.

Alabama Natural Resources Council TREASURE Forest Program

The idea of the Alabama TREASURE Forest Program was initially conceived in the early 1970s by the Alabama Forestry Commission's State Forester Bill Moody. Shortly after coming to Alabama to serve as State Forester, Mr. Moody realized that forest landowners were caught in the middle of a war that was being waged between the forest industry, environmentalists, and wildlife biologists. The forest industry had convinced private forest landowners that growing trees was a profitable venture. He identified the need for a statewide program that would not only assist landowners in managing their land for multiple-use benefits, but also recognize those landowners who managed their forest above and beyond the average forest landowner. Mr. Moody approached the Alabama Natural Resources Council, then known as the Alabama Forestry Planning Committee, requesting that the council sponsor and support the TREASURE Forest Program. Consisting of thirteen state and federal agencies, the council unanimously agreed, and in October of 1973, officially sanctioned the first state stewardship program in the nation.

As a side note, **the Alabama Natural Resources Council TREASURE Forest Program is an "agency" program and is not affiliated with the Alabama TREASURE Forest Association (ATFA), a private organization.** Membership in the ATFA is not required to be a part of and receive benefits from the Alabama Natural Resources Council TREASURE Forest Program.



Photo by Elishia Ballentine

Carbon Sequestration

Why is it important to store Carbon? The amount of carbon dioxide (CO₂) in the air had been relatively constant for ten thousand years until the Industrial Revolution in the 1800s. Since then, the world's population has grown tremendously, as has the use of coal, oil, and natural gas.

Because CO₂ is a primary product of combustion, the atmospheric concentration of CO₂ has been on the rise. At the same time, average temperatures throughout much of the world have inched up and other climatic changes have been documented, indicating a connection between our use of fossil fuels and climatic effects.

Although total implications are not known, the majority of the scientific community feels strongly that continued unchecked growth of CO₂ releases into the atmosphere will have very negative effects on our environment. To effectively reduce CO₂ emissions, we must find alternative clean sources of energy as well as encourage the development of "carbon sinks" where atmospheric carbon is removed from the air and stored such that it will not negatively affect our environment.

What is Carbon Sequestration?

The removal of carbon from the atmosphere is the process of carbon sequestration. This can be accomplished by storing atmospheric carbon into the ground, water, or into vegetation.

How do trees play a role in Carbon Sequestration?

Trees take in CO₂ from the air in the process called photosynthesis. The tree effectively breaks down the CO₂, stores the carbon in all parts of the tree, and releases the oxygen back into the atmosphere. Fast growing trees are, in fact, the most efficient way to sequester atmospheric carbon.

What are Carbon Credits and how are they determined?

A "carbon credit" is a market term. Carbon storage in trees is usually measured in carbon dioxide equivalent (CO₂e). Trees are roughly 50% carbon, based on dry weight. A carbon credit is equal to one metric ton of CO₂e.

Therefore, the amount of carbon credits on your property can be computed based on a forest inventory cruise of your property to determine the timber volume by weight. Some factors that will affect the amount of carbon sequestered in your forest will be the age of the trees, stocking levels, species, and site index of the soil.

What things should I consider before signing up? How do I decide if I should participate?

The carbon market has been established in the U.S. but it is in its infancy. There are still many unknowns. Forest landowners should be able to benefit from the increased interest in carbon trading either through direct sequestration or revenue sharing with power generation facilities. The decision to participate in the carbon market will be heavily influenced by factors such as the commitment period required, associated fees, market access, inventory methods, and silvicultural treatments.

Only after careful consideration and consultation with professionals experienced in this subject matter, should a decision to participate be made. You should also fully consider how your short- and long-term management objectives will be impacted from participating.





Who buys Carbon Credits?

Currently in the U.S., the Chicago Climate Exchange (CCX) is the only recognized commodity based trading market for carbon credits. The commodity traded on the CCX is a Carbon Financial Instrument (CFI) contract which represents 100 metric tons of CO₂e. Smaller landowners do not sequester enough carbon on their land to meet this minimum requirement. Therefore, they must sell through an aggregator.

How do I choose an Aggregator?

The entire process of finding and signing up forest carbon stocks has taken on a “land rush” mentality. Since the markets are still being developed, every landowner wanting to explore selling their carbon offsets should always remember, “SELLER BEWARE.”

If you are looking for an aggregator, or an aggregator contacts you, first and foremost make sure they are registered with the CCX. If they are not, STOP! Do not pass “Go” because you could be entering into a legally-binding agreement with someone who has no access to an operating carbon exchange in the U.S.

Once you have verified that you are working with an actual approved aggregator, then read the contract carefully and make sure you feel comfortable with the aggregator. Ask about carbon pool amounts, verification fees, and aggregator fees.

What is the value of a Carbon Credit?

Because this market is voluntary, the value of a carbon credit remains relatively low. If congress passes cap and trade legislation requiring reduced emissions, the value of a carbon credit is expected to increase significantly.

What are the requirements? Is there a minimum land ownership requirement?

- A forest landowner must manage his forest under a certified sustainable forest program and sign a commitment form to do so for the length of the contract.
- Approved certification systems include Forest Stewardship Council (FSC), American Tree Farm Systems (ATFS), the Sustainable Forest Initiative (SFI), and any other CCX-approved certification system. Most landowners in Alabama can accomplish this by being certified as an American Tree Farm.
- The American Tree Farm system requires that you own at least 10 acres, have accomplishments in sustainable forest management, be inspected by a registered forester, and are recommended for certification.
- Further, the amount of credit and contract length will be determined by the type of forest project, and therefore the way carbon is being stored. Those types are:

Afforestation is the planting of new forests on lands which have not contained forests. Landowners are eligible for the Afforestation program if they planted trees after January 1, 1990, on land that did not previously have trees. Under Afforestation, the landowner cannot thin or harvest trees on enrolled land.

Managed Forest Projects are sustainably managed forests such that their growth in carbon stocks exceeds their harvest. Landowners are eligible for the Sustainably Managed Forest program if they follow a certified forest management program. Thinning and harvesting is allowed under the Sustainably Managed Forest, but the landowner must have a net increase of the carbon stored or will be out of compliance with the XFO contract.

Long-Lived Wood is harvested wood that has existed for a long period of time and served as a carbon sink.

(Continued on page 31)



Watersheds: Upstream We're All in the

By Kathryn Flynn, Ph.D., Mosley Associate Professor and Extension

Certain resources inextricably link people, and one such resource is water. Historically, land was managed in discrete units because there was little or no understanding of how management decisions might be affecting people many miles away. Over time, we learned that the cumulative effects of management decisions made over large areas determine quality and quantity of our water resources. This fact resulted in the development of the “watershed concept” which has, in turn, led to efforts at land management on a watershed level.

So, what is a watershed? If you look up the term in *Merriam-Webster's Collegiate Dictionary*, you will find the following definitions: “1a) a divide; 1b) a region or area bounded peripherally by a divide and draining ultimately to a particular water course or body of water; 2) a crucial dividing point, line or factor: a turning point.” These definitions are helpful in visualizing a watershed.

Watersheds, also called catchments or basins, have physical boundaries that are determined by elevation and the direction of water movement toward or away from a particular stream. The elevational high points act as a “divide.” Inside a watershed, water moves toward the stream located within the boundaries; but outside of the boundary, water movement is toward a different stream or river. In other words, watersheds are defined hydrologically.

The next logical question is, “How big are watersheds?” The answer is, “It depends.” The term watershed can be applied to the area that feeds a very small stream (these are also often referred to as “sub-watersheds”) or to an area that provides

water to a large river. For example, the watershed of the Mississippi River includes most of the central United States and even parts of southern Canada. This means that the water quality and quantity of the Mississippi River at its mouth is determined by all of the land management activities that occur within that huge land area. From a management perspective, watersheds are usually divided up into smaller sub-watersheds nested within the larger one. This makes it easier to quantify the impacts of an area on the water quality and quantity of water

flowing out of the larger watershed. One sub-watershed may be almost entirely forested and yield a steady supply of high-quality water; another may be heavily developed or disturbed and yield pulses of low-quality water. The quality, quantity, and flow pattern of water leaving the larger watershed will reflect the synthesis of the water conditions of these different sub-watersheds.

So, how does water move through a watershed? When water reaches the earth's sur-

face as rain or snow, it moves over and through the surrounding landscape. Some of this water is lost to evaporation. The remainder either flows over the surface of the soil until it reaches a stream or other water body, or is absorbed by the soil. Water that enters the soil will either be taken up by vegetation, held in the soil, or it will move laterally through the soil and enter the stream, or move downward to become groundwater.

The condition of the land over which water moves has a significant effect on the pathway of that movement. For example, vegetated landscapes typically have less overland flow than areas with exposed soil. This is because more litter is present in



Photo by Kelvin J. Daniels

Stream, Downstream, The Same Boat

Specialist, School of Forestry and Wildlife Sciences, Auburn University

vegetated areas and this litter slows the movement of water and holds it until it can infiltrate the soil surface. Vegetated soils are also usually less compacted than exposed areas, resulting in more soil pore space into which water can move. Lateral movement of water through the soil takes longer than movement of water over the soil surface, and this ensures a steadier stream flow.

Additionally, water that moves over vegetated surfaces picks up less sediment than water moving over exposed soil. The increase in erosion that occurs as water moves over exposed soils ensures higher sediment loads in the streams, unless some type of best management practice is employed to filter out the sediment. At the same time, since less water is actually moving into the soil, there is less subsurface recharge of groundwater and less lateral movement of water into streams. This results in streams that are “flashy.” This means that the water level of the stream rises more quickly in response to rainfall; however, because the lateral movement of water through the soil is decreased, the stream falls more quickly after rainfall ceases, making water supply less predictable. This flashy characteristic will also increase the frequency and severity of downstream flooding.

One of the challenges to managing land at the watershed level is that hydrologic boundaries do not conform to municipal, county, state, regional or, sometimes even, national boundaries. In addition, individual landowners may own land that lies within more than one watershed, municipality, county, or state. This

means that unless the different governmental entities within a watershed work together, regulations regarding land management and water resources may be different. In short, management of land at the watershed level is more complicated than management of land in discrete parcels.

So, why would we make the extra effort to manage land at the watershed level? Because, even though this approach is more complicated, downstream communities are dependent on upstream communities for the quality, quantity, and timing of delivery of their water. Streams and rivers connect us to people we don't know and, unless we work together to ensure that water quality and quantity is well-managed, upstream decisions can quickly become major downstream problems.

One important issue raised by landowners is that the cost of protecting water quality and quantity is borne by an individual, while the benefits go to many people. This reality has resulted in the development of a market for environmental services. This market, still fairly

new or even unheard of, provides an opportunity for landowners to reap financial rewards for land management decisions that protect the water quality and quantity of people living downstream.

If you are interested in learning more about the watershed you live in, go to “Surf Your Watershed” at www.epa.gov/surf. If you would like to find out what you can do to protect the water in your watershed, visit “Adopt Your Watershed” at www.epa.gov/adopt. 



Photo by Kelvin J. Daniels

Providing Water Quality Services: A New Opportunity for Forest Landowners

By Suman Majumdar and Dr. Yaoqi Zhang, Forest Economists,
School of Forestry and Wildlife Sciences, Auburn University

Environmental goods and services are those that we receive from our environment. Improving clean air and water, providing habitat for birds and other wildlife, offering recreational opportunities, and mitigating floods are only a few examples of the wide variety of these services. Environmental services are critical to ecosystem preservation and human well-being. However, free access to environmental services have made our ecosystem increasingly threatened, and this increasing scarcity makes our natural resources objects of trade.

The concept of payments for environmental services (PES) – that is, payments by beneficiaries to landowners, in return for adopting conservation and restoration practices – is not new in the United States. A famous and successful PES deal in the mid-1990s was New York City's payment to upstate farmers in order to preserve and enhance the upstate watershed. In fact, government agencies have been using income tax deductions/credits and other types of indirect monetary incentives to engage landholders in conservation activities for a long time now. Several non-governmental organizations (NGO) have also been playing very important roles. The use of conservation easements is one such example. According to the American Farmland Trust, the first purchase of an agricultural conservation easement (PACE) was enacted by Suffolk County, New York, in the mid-1970s. Developments in the market for environmental services provide a new impetus to the payment-based approach toward managing our natural resources and the environment, while saving taxpayers' money.

Alabama is extremely rich in its natural resources, especially forest resources. The state has more than 20 million acres of timberland, the third largest in the nation. Forests provide not only timber and other non-timber products, but also many environmental services. Some services, such as

credits for carbon sequestration and ecotourism, have been gradually placed in the marketplace. In the emerging market for environmental services, forest landowners can play a crucial role which would not only benefit society as a whole, but also provide a financial benefit for the landowners themselves.

One particular forest environmental service of great importance in Alabama is clean water. According to the information provided on the Alabama Cooperative Extension System's website (www.aces.edu), most point source water pollution in Alabama has been successfully controlled through the federal discharge permit program of the Clean Water Act. However, this program has not been effective in controlling non-point source pollution, caused primarily by pollutants carried in storm water runoff.

The US Environmental Protection Agency (EPA) recognizes that traditional water protection tools such as enforcement, permitting, financial assistance, and education, may not be enough to restore and protect water in the southeast (www.epa.gov/region4/water/WQtrading/index.html). The EPA believes market-based approaches, such as water quality trading, provide more flexibility and have the ability to achieve water quality and other environmental benefits greater than would otherwise be achieved under more traditional regulatory approaches. According to the EPA, market-based approaches are able to achieve water quality goals with significant economic savings. The objective of the EPA's policy is "to encourage states, interstate agencies, and tribes to develop and implement water quality trading programs for nutrients, sediments and other pollutants where opportunities exist to achieve water quality improvements at reduced costs." The policy encourages voluntary trading programs that facilitate total maximum daily load (TMDL) implementations, reduce the costs of compliance with the Clean Water Act (CWA) of 1972



regulations, set up incentives for voluntary reductions, and promote watershed-based initiatives. The EPA provides guidance for the states, interstate agencies, and tribes to assist them in developing and implementing such programs.

Water quality trading is a market-based approach to pollution control. A market is created where nutrient credit trading between individual polluters determines the level of pollution by each one of them. Water quality goals are determined by the CWA. Thus, the individual sources are allowed to find the least costly method for meeting their allowances. A market is formed by trading between the sources with high costs (buyers) and the sources with low costs (sellers), as long as differences in pollution reduction costs exist.

In the early 1980s, the EPA began authorizing trading principles, on a limited basis, to address water quality problems. For reducing the impacts of non-point source discharges on coastal waters, water quality trading was also introduced in the Coastal Zone Act Reauthorization Amendments (CZARA) of 1990 as a means of alternative management. The national effort for watershed-based nutrient trading started as a result of President Clinton's "Reinventing Environmental Regulation" program released on March 16, 1995. To help with the evaluation and design of trading programs, the EPA started providing guidance to different states in 1996. The Great Lakes Trading Network was set up in 1998 in order to provide a forum for exchanging information about water quality trading programs in Canada and the United States. This network had 13 affiliated programs and projects on its list. However, an EPA review in 1999 reported approximately 37 active nutrient trading systems in the US, some of which were more than ten years old. The EPA has published a series of policy papers in recent years, including the National Water Quality Trading Policy of 2003, to support the development and implementation of market-based approaches to water quality management.

A 2003 publication of the Environmental Law Institute, Washington DC, written by Dennis M. King and Peter J. Kuch, reports the existence of working groups in many states, some of which are quite old, developing prototype pollutant credit trading systems. Environmental groups, such as the World Resources Institute (WRI) and Environmental Defense (ED), have been promoting point/non-point nutrient trading

for years now. In fact, in order to help countrywide trading, the WRI has developed a pilot nutrient credit trading system online (www.nutrientnet.org/). In their article, King and Kuch reported that three point/non-point source nutrient trading programs existed in the US in 2003: Lake Dillon (Colorado), Cherry Creek Basin (Colorado), and Tar Pamlico Basin (North Carolina). However, only a few small transactions have actually occurred in these programs. According to a 2007 article by Bobby Cochran, an environmental marketplace analyst, published in the *Western Forester*, only 13 out of 40 programs in 2004 completed a trade. In her 2005 paper, *Tijdschrift voor Economie en Management*, Sandra Rousseau reported the existence of 40 effluent trading projects in the US. These included watershed trading programs, watershed pilot programs, offsets for one discharger, trading studies, and some other activities.

An example of successful water quality trading is found in Oregon's Tualatin Basin where an urban sewer and storm water utility, Clean Water Services, has purchased three years of temperature reduction credits supplied by agricultural and urban riparian areas. This trading not only resulted in millions of dollars of savings for Clean Water Services, but also financial incentives for farmers. Very few of the trading programs so far have incorporated the forestry sector. A review of the water quality trading programs done at Dartmouth University in 2004 revealed that forest landowners have participated in trading programs only in Lake Tahoe, California, and in the state trading policy of West Virginia.

Although effluent trading programs have not been very successful in general, market analyst Bobby Cochran is optimistic about the potential opportunities for forest landowners in water quality trading markets. Water quality markets can be a new source of revenue for forest landowners. Forest landowners can generate temperature or sediment reduction credits by increasing their stream buffers beyond that which is required. In order to benefit from trading, forest landowners and their organizations need to take part in establishment of markets. The rules of environmental service markets determine the market outcomes. For example, forest landowners may not be able to sell credits if there is no well-established relationship between forest buffers and water quality improvements.

(Continued on page 31)

Forest Management Annual Calendar

By Allen Varner, Stewardship Forester, Alabama Forestry Commission

Managing your forest is a full-time job and goes on all year long. Although working on your timberland is considered by many to be a labor of love, it doesn't take long to realize that just a few acres can provide a fellow with plenty of love and work him to death at the same time! Yet one of the beautiful things about owning and working your private forest is that each season – summer, fall, winter, and spring – brings around its own set of conditions, challenges, and opportunities to enhance your forest through proper management activities.

You may have read articles that promote having an up-to-date forest management plan for your property. Such a plan provides focus, and helps you structure your management activities so that you may achieve your goals. Your local Alabama Forestry Commission office can assist you with a Forest Stewardship Management Plan. Please take advantage of this free service.

One of the key components in your plan is the schedule of activities. With a five- to ten-year planning horizon, different management activities should take place at different times of the year to either maximize the activity's effectiveness or minimize potential harm to your forest. A schedule of activities also allows for planning ahead to accomplish the endeavors, and thinking at least six months in advance of the scheduled activity will help ensure that it is done in a timely manner.

This general planning calendar can help you schedule various forest management activities. Although not all-inclusive, it does list most major activities. As you begin to plan, take advantage of your local AFC office by contacting them for professional advice and services. 

	JAN	FEB	MAR	APR
Chemical Herbaceous Weed Control				
Chemical Site Preparation/Release				
Fire Breaks				
Food Plots				
Harvesting	<i>Always consult with your local AFC office before</i>			
Mechanical Site Preparation				
Order Seedlings				
Prescribed Burning				
Road Maintenance				
Site Preparation Burning				
SPB Inspection				
Tree Planting				



www.forestry.alabama.gov



MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<i>harvesting your timber. They can provide a list of professional forestry vendors to assist you.</i>							
						*	

* Containerized seedlings can be planted in November with adequate soil moisture.

Mild Fire or Wildfire? It's Your Choice!

Photo by Brad Ffle

By John Stivers, Registered Forester, Alabama Prescribed Burn Council

The majority of Alabama's landscape is either fire dependant or fire adapted so it can function as the way the Lord intended. **Prescribed fire is a safe way to apply a natural process, ensure ecosystem health, and reduce wildfire risk.** When prescribed fire is excluded from forest or range systems, things will get out of balance and there will be consequences.

The most notable consequence would be wildland fire that could damage timber, property, soils, air quality, watershed values, and wildlife habitat, as well as expended financial resources to suppress the unwanted fire. Many of these "impacts" are borne by the landowner and general public.

It is in the best interest of the public to be supportive of sound use of prescribed fire to meet resource objectives. **Only YOU can promote prescribed fire!**

Other consequences that are less noticeable by the general public include:

- loss of key habitat required for threatened/endangered plants and animals
- conversion of understory species
- decline in habitat value for many game and non-game species
- risk increased to wildland fire personnel, and
- less aesthetic value from managed open stands

Prescribed fire has many resource benefits including, but not limited to:

- hazardous fuel reduction
- wildlife habitat improvement

- forest site preparation for tree planting or natural seeding
- timber stand improvement
- control of undesirable species
- range improvement
- agricultural debris management, and
- disease control

The Alabama Prescribed Fire Council (APFC) was formed in October 2007 and is part of the national coalition of prescribed fire councils. The mission of APFC is to "protect, conserve, and expand the safe use of prescribed fire on Alabama's fire adapted landscape." The purpose of APFC is sevenfold:

- provide a focus for issues and concerns regarding prescribed fire in Alabama (including agricultural burning and range management)
- facilitate communication and the exchange of information regarding the benefits of prescribed fire
- provide a forum where all interested parties may participate in meetings and share in the benefits from information generated by APFC
- promote a general public understanding of the benefits of prescribed burning and distinguish between wildland fire and prescribed fire
- promote safety, training, and research in the art and science of prescribed fire
- provide a forum for discussions on prescribed fire practices, regulations, and policies as well as a means to defend prescribed burning rights, and

- promote and facilitate an increase in acres treated annually by use of prescribed fire

The APFC is governed by a 15-person steering committee that is elected by the general membership. This committee is composed of a diverse representation from groups: landowners, consultants, agencies, forest industry, and non-profit organizations. The steering committee meets twice each year and the general membership meets annually. There are nine working groups of volunteers from the APFC's general membership to work on issues and present recommendations to the steering committee to be taken to the general membership. These working groups include:

- policy and legislation
- fire effects
- equipment
- litigation, claims, and insurance
- public relations, education, outreach, and grants
- website
- fuels and fire behavior
- smoke management, and
- vendors and contractor pools

When fully developed and active, the APFC website will be www.alabamaprescribedfirecouncil.net. It is the vision of APFC to be one of the key "go to" locations for the public in Alabama, both for information and to complement the Alabama Forestry Commission public services for landowners who use this important tool called prescribed fire.

To become a member of the APFC is simple and it is free. Simply drop an email to rxburning@aol.com with your name and contact information. Annual meetings are in October of each year for the general membership.



Photo by John Pirtle

The national coalition of prescribed fire councils is comprised of individual prescribed fire councils to give a national voice to prescribed fire. Currently, 28 US states (including Alabama) have established councils or are currently developing councils. Mexico and one province in Canada are also part of the coalition.

The APFC is working to get all 67 counties in the state to adopt resolutions that support prescribed fire, as well as a Governor's Proclamation declaring February as "Prescribed Fire Awareness Month" in Alabama. Prescribed fire is a landowner right and a benefit to society, and the APFC supports the Certified Prescribe Burn Manager program in Alabama. ♡



Photo by John Pirtle

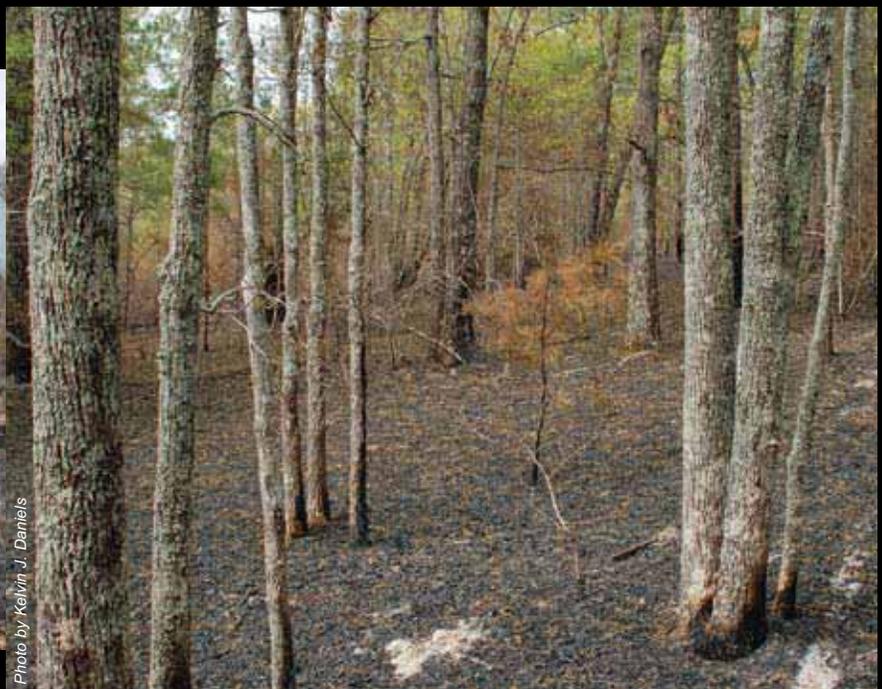


Photo by Kelvin J. Daniels

Let's Make Sure Our Oak Trees are Here To Stay

By Dana McReynolds, Forest Health Coordinator, Alabama Forestry Commission

White oaks, water oaks, turkey oaks, pin oaks, black-jack oaks, and many more oak species all grow and flourish in the southeastern forests. Most of these oak trees are a major part of the region's forest ecosystem. Wildlife depends on the delectable acorns for food and the trunk hollows for shelter. Other wildlife species depend on the stems and leaves for building and repairing their homes.

Humans also enjoy the wonderful pleasures of oak trees . . . we manufacture the wood for a variety of timber products, but we also have non-traditional uses for oak trees. The aesthetics alone bring us a special sense of serenity. Just imagine that beautiful live oak – approximately 80 years old – firmly established in your front yard. Weekends spent sitting on a swing, nicely constructed on one of the mature branches extending out

from the trunk, make memorable moments for you and your family. What would happen if these unique oak species were gone?

Remember the American chestnut tree and how it was an integral part of the eastern U.S. forests? Now these trees barely exist because of a non-native pathogen. A similar fate could occur with oak trees. A new invader has appeared on the West Coast that may eventually pose a threat to our eastern oaks:

Phytophthora ramorum, the cause of "sudden oak death" disease. While not native to North America, the actual origin of this fungus-like organism is uncertain. Most scientists, however, speculate that the pathogen originated in Asia. Wherever the source may be, sudden oak death and other ramorum diseases are wreaking havoc in the Pacific Coast states of California and Oregon.

In 1995, tanoaks in coastal areas of Marin County, California, were the first trees to illustrate symptoms of sudden oak death disease. These infected tanoaks showed fading foliage that turned brown and clung to branches as moisture and nutrients were blocked from reaching the crown. Closer inspection also showed dark colored sap oozing through cracks in the bark beneath irregular, coalescing lesions. Soon, nearby coastal live oaks were found with similar symptoms . . . then California black oaks and Shreve's oaks. Hundreds of trees were killed as this mystery disease spread to other areas of the central California coast. It was not until five years later that the cause of sudden oak death was positively identified as a new species, *Phytophthora ramorum*. By then it was clear that this pathogen was also causing other diseases such as dieback and leaf blight on many shrubs such as evergreen



Photo by Dana McReynolds



Fishing for Sudden Oak Death: As a lure for *Phytophthora ramorum*, rhododendron leaves are placed in mesh bags and deployed in streams, creeks, and rivers. After approximately 10-14 days, the leaves are monitored for symptoms of infection: water-soaked brown or black lesions. The bait leaves are removed from the bags and tested at diagnostic laboratories to determine if the sudden oak death pathogen is present.

huckleberry, manzanita, and rhododendron, as well as trees such as bay laurel, Pacific madrone, bigleaf maple, and California buckeye. By 2002, the pathogen had made its way into southwest Oregon.

The immense concern about the spread of *P. ramorum* was not just confined to the West Coast; eastern forests were also under careful watch, especially after greenhouse testing of many oaks and other common eastern forest plants showed susceptibility to this infection. The worst fears were confirmed in 2004 when it was learned that potentially infected plants had been accidentally shipped across the country from a West Coast nursery that were later found to be *P. ramorum*-positive. As a result, the pathogen escaped quarantine and was eventually found in nurseries in 22 states, including Alabama. While many infected plants were intercepted before leaving the nurseries, others were sold and most likely planted in backyard landscapes. The risk of introduction into vulnerable eastern forests prompted nationwide early detection surveys. Alabama has hosted these annual surveys since 2004. The good news is that since the initial surveys began, no detection of *P. ramorum* has been found in Alabama outside of nurseries, even in the highest risk areas.

Early detection surveys for sudden oak death are generally implemented in the spring (March) and fall (October) when cooler and moister conditions favor the pathogen. In Alabama, surveys are a collaborative effort between the Alabama Department of Agriculture and Industries, the Alabama Forestry

Commission, Mississippi State University, and the USDA Forest Service. High risk sites are identified based on forest composition, climate, and proximity to nurseries that may have received infected plants. Next, rhododendron leaves are placed in mesh bags and deployed in streams, creeks, and rivers as a lure for *Phytophthora* species. Sensitive to the smallest populations of the pathogen, this baiting method can successfully detect the organism several miles downstream from known infection centers. After approximately 10-14 days, the leaves are monitored for symptoms of infection: water-soaked brown or black lesions. When symptoms are sufficiently developed, the bait leaves are removed from the bags, replaced with fresh ones, and tested at diagnostic laboratories at Mississippi State University. Scientists analyze the symptoms using several DNA and traditional plant pathology methods to determine if the sudden oak death pathogen is present. If discovered early, the probability of successful eradication is very plausible.

The words of that distinctive verse, "Chestnuts roasting on an open fire..." open the popular holiday song, *Merry Christmas to You*. Today, very few of us have ever seen chestnuts, or remember those tasty edibles enjoyed during that festive season. We certainly do not want a similar situation for our oaks . . . only reminiscing through sentimental songs and historical documents of the days of old where these lovely trees once flourished in our natural ecosystem. Sudden oak death disease has the potential to create that outcome, but with committed

and concentrated efforts we can prevent such a gloomy end. The surveys are just one method of preventing the spread of this disease; halting the transportation of infected nursery stock is another. No matter what the efforts are or to what extent, every accomplishment counts. Each of us, not just scholars from universities or foresters from agencies, should become actively involved in making sure that our oak trees are here to stay. 🌲

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Hardwood Corner

By James P. Jeter,

Statewide Hardwood Specialist, Alabama Forestry Commission

Boy, what a difference a year and a little rain can make. During part of the summer of 2007, Alabama was under a “No Burn” order issued by State Forester Linda Casey. The big question was about fireworks and the potential for devastating fires on the state’s forestland. This scenario followed on the heels of a unique Easter freeze that defoliated a lot of trees with new growth. These situations presented several questions that only time would answer. Allow me now to address some of these questions.

Is Alabama out of “the drought?”

We had two hard years with most of Alabama’s counties under some sort of drought, listing from severe to extreme. As of May 2008, only the counties in the Northeast Region of the state were listed as severe drought. (See insets of Palmer Hydrological Drought Index, June 07 and June 08.) While there is improvement, we are actually not out of the woods, so to speak. Even though the rain we have received is truly appreciated, ground water has not built up. How this year ends will be determined by hurricane season rains.

Did the 2007 late spring freeze kill any trees and what did it do to the acorn crop? A few trees did bite the dust as a result of the freeze, although it took them a complete year to die and they were isolated here and there. A hawthorn died that I had planted in my yard several years ago, as well as a Japanese maple at our office. The maple did not die outright, but had enough dead limbs to be unsightly and make recovery very difficult.

Oaks flower in early spring between March and April – turkey season. If the crop is a success, white oak acorns mature later in the summer and begin falling September to October of the same year. Red oaks take two years to complete the process. From what I personally observed and was told by enthusiastic deer hunters, the Southern three-quarters of the state had an excellent white oak acorn crop with acorns lasting into the winter. However, there seemed to be a line from north Marion County across to Cherokee County where the white oak acorn crop suffered from the freeze. That same scenario can also be expected this fall for the red oak acorn crop.



Photo by Kelvin J. Daniels

- 1) Just because hardwood species are present, is the site really a good hardwood site that will meet your objectives?
- 2) What are my options for regenerating this stand back to hardwood if I so desire?
 - a) Will I need to site prep and plant?
 - b) Will a shelterwood cut help establish advanced regeneration?
 - c) What species will come back in the natural regeneration?
 - d) Did I look at the existing ground vegetation? Do privet sprouts exist?

As a follow-up, if you have privet and it is small enough to reach with a foliar application, the “application window” is from August to March according to Dr. Jim Miller, USDA Forest Service. This means you can make applications in the cooler months. Also, if you choose to use glyphosate as your application, smaller hardwood seedlings may not be harmed as much due to the lack of leaves being present on non-target stems.

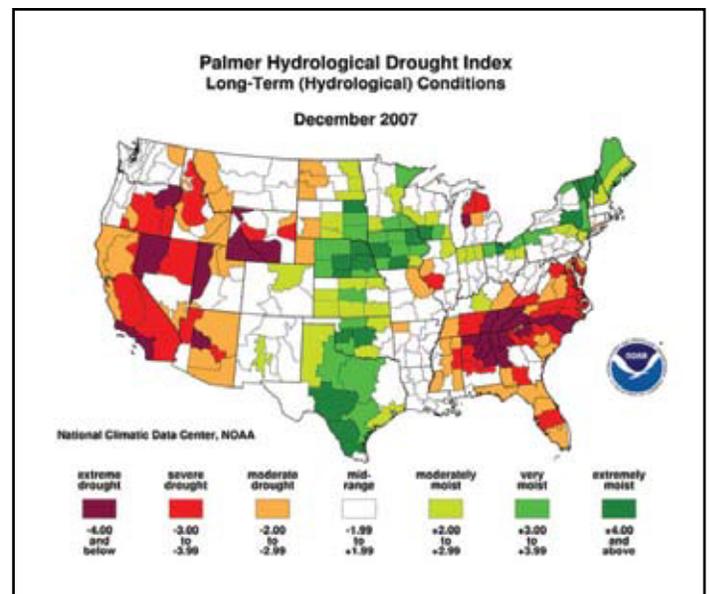
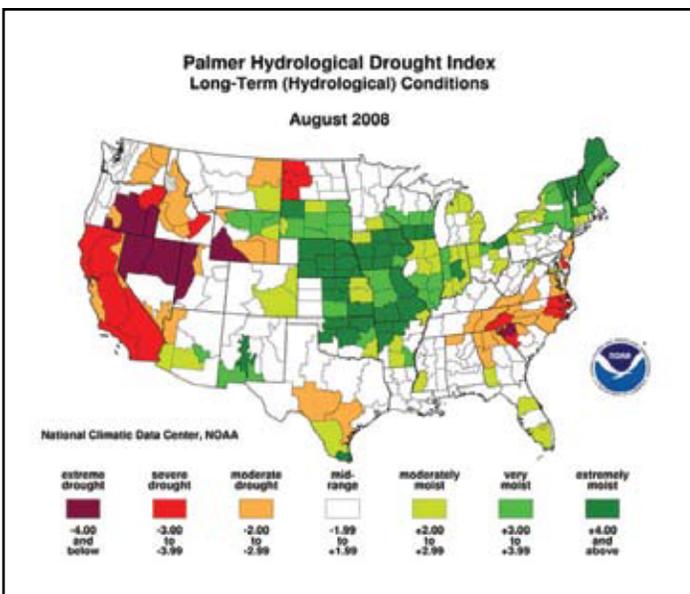
As a late note of interest: In

Tuscaloosa along a certain portion of the Black Warrior River, there was an unusual outbreak of the sweetgum defoliator, Large Paectes (*Paectes abrotalesoides*). This pest is always present but in small numbers, although something this year raised the number of caterpillars to the point of concern by those who observed the complete defoliation of the abundant sweetgum. Regretfully, no harm done. According to Jim Hyland, AFC Forest Health Specialist retired, the last recognized outbreak of this defoliator was in 1977. I would like to thank Wayne Ford and Dr. Charles Ray for helping identify this caterpillar. I understand there were several occurrences across the state. 🌿

What about hardwood trees dying from the lasting effects of the drought and associated stress? I am seeing a lot more mortality from Hypoxylon Canker, which was discussed in the spring issue of this magazine. Urban tree decline is also on the rise due to the stress of drought, with oak decline being one of the disorders or syndromes associated with this stress.

Newly established hardwood regeneration – Planted seedlings and natural regeneration seem to have had enough rain at this point where survival will be favorable. This fall will tell the tale.

Privet – There was a great article by Tim Albritton (also in the spring issue of this publication) dealing with this plant. Before you harvest a hardwood site, please evaluate the site for the following:



Wood Pellets:

A New Source of Energy in Alabama

By Walter E. Cartwright, RF, Forest Management Division Director, Alabama Forestry Commission

The wood pellet industry is relatively new to the South, but it's been around for decades in New England where the little round wood pellets are burned in home heaters. We have seen a tremendous expansion of the pellet industry in the US recently, driven by last year's fuel shortage and increase in price, as well as by the export opportunity. Conventional fuel prices have skyrocketed, all petroleum fuels have increased significantly, and coal prices have tripled to \$150 per ton. Since coal makes up about 50 percent of an electric utility's fuel portfolio, consumers will see higher rates for electricity. Pellet plants are utilizing woody biomass (logging residuals, sawdust, bark, and small trees) to produce pellet fuels. Wood pellets, chips, waste paper, cordwood, and other agricultural by-products are all categorized as biomass fuels.

The attraction of biomass fuel is that we have an ample supply in the Southeastern forests and it is renewable. Once fossil fuels are removed from the ground and used, they are gone forever. Trees can always be replanted. Wood pellet proponents point to numerous advantages over fossil fuel. For one thing, pellet high density and uniform shape means they can be stored in standard silos and easily transported by rail or barge. They can be unloaded directly from barges to ships without using any dock space.

Pellets also pose none of the explosion risks or environmental pollution from spills as non-renewable fossil fuels do. Also, when biomass such as wood pellets are heated, carbon dioxide is released into the atmosphere. Trees absorb it in equal amounts as they grow, so burning pellets does not increase the amount of greenhouse gas in the atmosphere.

Production issues include a consistent, known local supply of fiber that can be managed to have a consistent blend of material. This requires managing suppliers, watching chip quality, wood yard management, and pile turning and blending. The drying process is run to prepare the material, and dryers cannot be cycled up and down to meet varying chip properties. The extrusion process is a source of proprietary knowledge where companies have to design and change the dies for pellet diameter, hole length, and hole profile; all of which would change if the feedstock is varied. Specifications even vary from pine to hardwood to woody material with large amounts of bark. Companies also have emissions issues with heating wood and losing some Volatile Organic Compounds. The operations are run 24 hours a day, 7 days a week to maximize annual production and fully utilize the dryers being used.

Current wood pellet production capacity is not able to meet peak demand. In 2007, total North American pellet production was nearly 3 million tons, with worldwide production nearly 7 million tons. Some experts estimate that European consumption by 2010 will top 12 million tons. Driving this growth is a push by European utilities to cut carbon dioxide releases from fossil fuels in an effort to combat global warming. Pellets are also burned to heat buildings in parts of North America and Europe.

The accompanying photographs show the world's largest pellet production facility, Green Circle Bio Energy, a 560,000-ton per year plant in Cottdale, Florida. Beginning production this year with state-of-the-art equipment, the owners are fine-tuning the operation for maximum wood pellet production.

Recently constructed near Baxley, Georgia, is “Appling County Pellets, LLC.” This 145,000-ton-per-year capacity pellet plant is operated by Fram Renewable Fuels.

Other such mills are under construction across the Southeast, targeting power plants in Europe that substitute pellets for coal or natural gas in an attempt to cut carbon dioxide emissions. New Gas Concepts is planning to build a 500,000 ton per year pellet plant near Jackson, Alabama, in Clarke County. “DG Pellets I” will be located in the industrial park on Highway 177, about a mile east of U.S. 43 on the city’s south side.

The same company is also starting production at a similar plant in Selma, called “Dixie Pellets.” This \$75 million facility is expected to employ 80 to 100 people. Dixie Pellets will have an annual capacity of 500,000 tons, making it the world’s second largest plant. The Selma operation is dependent on a barge channel down the Alabama River. With low flows, they may truck pellets to Demopolis to ship them down the Tombigbee River, which also runs near the Jackson site.

Meanwhile, pine pellets manufactured near Gordo, Alabama, in Pickens County are being sold as cat litter!

These plants in Alabama, Georgia, and Florida represent a significant increase in pellet production. The Pellet Fuels Institute website lists over 80 member companies producing in excess of one million tons. Prior to the newest round of plants, the largest in the US was a 200,000-ton per year



operation. The listed capacities are dry tons of product. Multiply by 4 to estimate green tons of feedstock required. The Alabama/ Florida plants will consume about 3.5 - 4.5 million green tons of feedstock. ♣

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Pellet Fuel Information Notes – Dr. Bob Rummer, USDA Forest Service, Auburn, Alabama

www.pelletheat.com Fuel cost comparison chart, primarily residential application.

www.pelletheat.org Website for the Pellet Fuels Institute, a trade group. Good information on this site such as fuels standards.

*Below: Wood and chip piles at Green Circle Bio Energy pellet plant in Cottondale, Florida.
Inset: Dry storage facility at Green Circle Bio Energy pellet plant.*

Photos used with permission of Green Circle BioEnergy, Inc.



Geneva State Forest Offers Recreational Opportunities

By Chris Mead, Geneva State Forest Supervisor, Alabama Forestry Commission and John S. Powers, Area Biologist, Division of Wildlife and Freshwater Fisheries, Alabama Department of Conservation and Natural Resources



Fishing Lake Re-opened on October 1, 2008

The Geneva State Forest (GSF), owned by the Alabama Forestry Commission and located in extreme western Geneva County, encompasses 7,200 acres primarily of longleaf pine timber. It is the largest state forest in Alabama. All timber management activities are carried out in an ecologically sound manner with an eye to preserving and improving the native long-leaf pine ecosystem.

While production of timber with subsequent regeneration of forest stands is the primary objective on the Geneva State Forest, it provides Alabama's citizens with much more than wood products and revenue. In the true spirit of multiple use management, the GSF provides the public with recreational opportunities that include fishing, hiking, primitive camping, picnicking, bird watching, trail riding, and hunting.

Since the spring of 1984, the focal point for much of this activity has been the 100-acre Geneva State Forest Lake. Constructed by the Forestry Commission over several years, the lake quickly developed a reputation not only as a great place to fish, but also as simply a great place to go. Regrettably, plumbing problems associated with the lake dam resulted in low water levels (and sometimes virtually no water at all) beginning in 1999. However, repairs to the dam were completed and in February 2007, the Geneva State Forest Lake began to refill.

During the process of repairing the dam, the lake was drained as completely as possible. Remaining pools of water were treated with rotenone to eliminate any remaining fish and provide the opportunity to make a fresh start in managing the lake's fish population. Since water levels have risen, the lake has been stocked with 10,000 bass and 50,000 bream fingerlings, as well as 700 channel catfish. Management strategies have been developed in cooperation with Alabama Department of Conservation and Natural Resources Fisheries Section biologists. Creel limits will be set and posted after a final balance check.

On October 1, 2008, Geneva State Forest Lake officially re-opened for public fishing. All those over the age of 16 who wish to fish must be properly licensed and all other applicable

Alabama fishing regulations are in effect. Fishing is legal only during the hours between sunrise and sunset. Fishing from boats is allowed, but gasoline-powered motors are not permitted. A daily permit fee is also required for each person 16 years old or older for fishing and for other approved recreational activities on the forest. Permits can be obtained at the honor box located at the lake entrance. Permit stubs must be in possession to be valid.

In addition to fishing and other outdoor activities, Geneva State Forest also provides the public with quality hunting opportunities. Through a cooperative agreement with the Alabama Division of Wildlife and Freshwater Fisheries, the Alabama Forestry Commission has allowed both large and small game hunting for many years as part of the Covington Wildlife Management Area (WMA). Recently, rising demand for leasable hunting land and the income such leases potentially generate resulted in the loss of approximately 15,000 acres historically part of the Covington WMA. This loss of acreage brought into question the future of public hunting on the GSF as well. The questions were answered, however, and an official Memorandum of Understanding between the two agencies is in the process of finalization. This new cooperative agreement will solidify the status of what is now the **Geneva State Forest Wildlife Management Area** for the near future.

Though the name of the management area has changed and its acreage reduced, the format for its operation will remain the same. Small game hunters and those hunting deer with bow and arrow will be required to be in possession of a signed seasonal permit (map) in addition to appropriate state and wildlife management area licenses. Seasonal permits will be available from the Geneva State Forest headquarters on Forest Area Road and from other distribution sites in Samson, Kinston, Opp, Onycha, Florala, and Lockhart. Daily permits for scheduled gun deer hunts will be available on the days of the hunts at the check station which will be located at the Geneva State Forest headquarters. For more information on Geneva State Forest, visit www.forestry.alabama.gov or www.outdooralabama.com. 

Tax Tips for Forest Landowners for the 2008 Tax Year

*By Linda Wang, Forest Taxation Specialist and
John L. Greene, Research Forester, Southern Research Station, USDA Forest Service*

This bulletin summarizes key federal income tax provisions for forestland owners, foresters, loggers, forest product businesses, and tax practitioners. It is current as of October 1, 2008, and supersedes Management Bulletin R8-MB 130. Consult your tax and legal professionals for advice on your particular tax situation.

Timber Sales

If you have held standing timber for over 12 months, income from the sale or disposal of the timber generally qualifies as a long-term capital gain. This is an advantage since, among other reasons, long-term capital gains are taxed at lower rates than ordinary income and are not subject to self-employment tax. Short-term capital gains are taxed at the same rates as ordinary income. For most individual forestland owners, the tax rate for long-term capital gains is 15%. From 2008–2010, however, a special 0% rate applies to long-term capital gains which, when added to your ordinary income fit under the ceiling for the 15% bracket for ordinary income (\$32,550 for single taxpayers, \$65,100 for married taxpayers filing jointly). Also, income from timber which a C corporation has held for more than 15 years is subject to a 15% capital gains tax rate, effective one year beginning on May 22, 2008.

Example 1. In 2008 you sold 200 tons of pine sawtimber out of a total of 1,000 tons on your entire tract for \$8,000. Your basis for the entire tract is \$10,000 and your sale expenses were \$900. Your depletion unit is \$10/ton ($\$10,000 \div 1,000$ tons). Your taxable gain is \$5,100 ($\$8,000 - (200 \text{ tons} \times \$10 \text{ ton}) - \$900$). If you sell cut timber, only the gain from appreciation of the standing timber can qualify as a capital gain; the value added by cutting and hauling the timber is ordinary income. Further, you only can treat the value of the standing timber as a long-term capital gain if you have an IRC section 631(a) election in effect. Make the election on Form T, Part II. Investors report timber income on Form 1040, Sched. D, and active business owners report it on Form 4797. If you claim a depletion deduction, sell timber lump-sum under section 631 (b), or make or use a 631(a) election, you also must file Form T; the form is available at <http://www.irs.gov/pub/irs-pdf/ft.pdf>. Partnerships and LLCs file Form 1065, Sched. K and K-1. S corporations report it on Form 1120S, Sched. K and K-1, and C corporations on Form 1120. If you receive payments from the sale or disposal of timber in 2 or more years, you can use the installment method to spread the income – and the tax on it – over the years you receive payments. Report an installment sale first on Form 6252, and then the amount can be carried over either to Form 4797 or Sched. D of Form 1040.

Timber Management Expenses

If you manage your forestland for profit – as an investment or a trade or business – you can deduct ordinary and necessary timber management expenses. These include timber cruises, fees paid a consulting forester, brush control, protecting the forest from fire, insects and disease, tools of short useful life, precommercial thinning, timber stand improvement, hired labor, and mid-rotation fertilization. Costs associated with reforestation, including supervision by a forester and brush control, are subject to the reforestation deduction and amortization provisions (see below). Costs associated with a timber sale, including a pre-sale timber cruise, are deductible from the sale proceeds. Property taxes and interest paid also are currently deductible, but you may elect to capitalize them if doing so provides a tax benefit. Car and truck expense related to timber activities also may be deducted using either the standard mileage allowance (50.5 cents per mile for 2008) or the actual expenses (including depreciation if you own the vehicle). For investors, property taxes are fully deductible in the Taxes You Paid section of Form 1040, Sched. A. Other management expenses, however, must be reported in the Job Expenses and Certain Miscellaneous Deductions section, where they are combined with other such deductions and only the amount that exceeds 2% of your adjusted gross income is deducted. Active business owners deduct all management expenses, including property taxes and interest paid, on Form 1040, Sched. C. Management deductions may be disallowed unless you can substantiate them. This makes it important to keep supporting records such as sales slips, receipts, invoices, canceled checks, and mileage records and have them on hand for an IRS examination or audit.

Forest Planting Cost

You can deduct outright the first \$10,000 per year (\$5,000 per year for married couples filing separately) of reforestation expenses per qualified timber property and amortize (deduct) any additional amount over 8 years. These provisions apply both to the cost of establishing a plantation and practices to encourage natural regeneration.

Example 2. You planted pine seedlings in 2008 at a cost of \$6,000. You can deduct all \$6,000 outright because it is less than \$10,000. Investors take the deduction on the front of Form 1040, as an adjustment to income; material participants take it on Form 1040, Sched. C or F (if you qualify as a farmer). If the planting cost had been \$14,000, you only could deduct \$10,000 outright. But you could take an amortization deduction for 1/14th of the remaining \$4,000 (\$287) on your tax return for 2008, 1/7th (\$571) on your returns for 2009 through 2014, and the last 1/14th on your return for 2015. Elect to amortize and show your deductions on Form 4562, Part VI.

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Tax Tips for Forest Landowners for the 2008 Tax Year

(Continued from page 27)

Depreciation and the First-Year Expensing

You may take annual depreciation deductions to recover your investment (basis) in property such as timber equipment, machinery, buildings, bridges, culverts, temporary roads, fences or the surfaces of permanent roads you placed in service for timber production. Cars, light-duty trucks, logging equipment, and road building equipment generally are depreciated over a 5-year period. If you purchased property for your timber business in 2008, you can elect to expense up to \$250,000, subject to phase-out and taxable income limitations, up from \$128,000. In addition, for property purchased and placed in service in 2008, a bonus depreciation in the amount of 50% of the property costs is available.

Cost-share Payments

If you received a payment from a public cost-share program, you also should receive a Form 1099-G. If the program is approved under section 126, however, you can elect to exclude a calculated portion of the payment from your gross income. Approved federal programs include the Conservation Reserve Program (CRP), Environmental Quality Incentives Program (EQIP), Wildlife Habitat Incentives Program (WHIP), and Wetlands Reserve Program (WRP). Cost-share programs for southern pine beetle and mountain pine beetle are under IRS review, but as of press time, had not been approved for exclusion. Several state programs also qualify. The amount of a cost-share that can be excluded is the present value of the larger of \$2.50 per acre or 10% of the average annual income from the property over the last 3 years. Calculating present value requires using an interest rate, but the IRS has provided little guidance as to what rate to use.

Example 3. You received a \$3,000 cost-share from EQIP in 2008. Your only income from your 40-acre forestland in the last 3 years was \$9,000 from a 2006 timber sale. Using 7.56%, the 2008 Farm Credit Bank interest rate for your region, you can exclude all \$3,000 of the cost-share from your gross income: $\$2.50 \times 40 \text{ acres} = \100 and $10\% \times (\$9,000 \div 3) = \300 ; the present value of \$300, the larger of the two amounts, is $\$300 \div 7.56\% = \$3,968$, which is more than the cost-share. Attach a statement to your tax return showing the amount and nature of the cost-share payment and how you determined the excludable amount.

CRP Rental Payments

Land rental payments received under CRP are not cost-shares and cannot be excluded from gross income. Beginning in 2008, however, CRP rental payments are exempt from self-employment tax for taxpayers who are retired or disabled.

Timber Basis

Basis is a measure of your investment in timber. The total cost of acquiring purchased forestland should be allocated proportionately among capital accounts for the land, the timber, and other capital assets acquired with them. The fair market value of inherited forestland should be allocated similarly. This usually results in a step-up in basis because the fair market value of the property is higher than the decedent's basis. Establishing your basis can lower your income tax by reducing the taxable amount of timber income. It also can help you recover reforestation costs or your investment in timber lost in a casualty or theft. If you

did not establish your basis when you first acquired your timber, you can do it retroactively. You may need a professional forester to determine the volume and value of the timber at the time you acquired it. If you acquired your timber or forestland many years ago, you should compare the potential tax savings from establishing your basis retroactively with the time and expense involved, to see whether it is financially worthwhile. Report your original basis in timber and land on Form T, Part I.

Timber Casualty Losses

You can take a deduction for timber lost in a casualty – an event that is sudden, unexpected, and unusual, like a fire, ice storm or hurricane. Start with the timber “block” that includes the damaged area (if you keep track of all your timber in one account, that is your timber block). Your deduction is the lesser of the decrease in value caused by the casualty or your basis in the timber block.

Example 4. This year a hurricane destroyed timber on your 50-acre tract. Your forester estimates the timber was worth \$10,000 before the storm but only \$1,000 after, a \$10,000 decrease in value. Your basis in the timber is \$2,000. Your casualty loss deduction is \$2,000, the lesser of the two numbers. Keep in mind the IRS may verify your basis and damage estimate. Report a casualty loss on Form 4684, Section B; adjust your timber basis on Form T, Part II.

Like-Kind Exchanges

Instead of selling appreciated timberland, paying tax on the income and then acquiring replacement property using after-tax dollars, you can structure the transaction as a like-kind exchange (section 1031 exchange) so that gains are not currently taxed. To qualify, you must identify the replacement property within 45 days after closing on the relinquished property. The exchange must be completed by the earlier of the 180 days after the closing of the relinquished property or the due date (including extensions) of the tax return in the tax year of exchange.

Conservation Easements

You can take a charitable contribution deduction for donation of a permanent conservation easement. The amount you can deduct for 2008 is limited to 50% of your adjusted gross income, but you can carry forward any unused amount to be deducted over the next 15 years. If you generate more than 50% of your total income from a timber business, the amount you can deduct is limited to 100% of your adjusted gross income. 

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It's time to prepare your property for planting! Part of that site preparation plan is finding the right tree seedlings to plant this coming winter.

Seeing a new forest established is a rewarding experience and since many landowners ask where to find quality tree seedlings, the Alabama Forestry Commission has recently updated the current list of seedling sources. This list is in alphabetical order, and is in no way an endorsement of any particular company or product.

If you are a company that provides tree seedlings to the public but are not listed here and you would like to be, please contact the Alabama Forestry Commission, Forest Management Division at (334) 240-9332.

Alabama SuperTree Nursery

ArborGen, LLC

264 County Road 888
Selma, AL 36703
Phone: (800) 222-1280
Fax: (877) 833-4758
www.supertreeseedlings.com

American Tree Seedling, Inc.

401 Industrial Blvd.
Bainbridge, GA 31717
Phone: (229) 246-2662
Fax: (229) 256-4787
Email: customerservice@americantreeseedlings.com

Andrews Nursery

Florida Division of Forestry

9850 NW 42nd Court
P. O. Drawer 849
Chiefland, FL 32644
Phone: (352) 493-6096
Fax: (352) 493-6084
Email: gillys@doacs.state.fl.us

Baucum Nursery

3821 W. Roosevelt Road
Little Rock, AR 72204
Phone: (501) 296-1940

Buckeye Nursery, Inc.

P. O. Box 450
Perry, FL 32347
Phone: (800) 838-2218
Fax: (850) 838-2681

Chestnut Hill Nursery, Inc.

15105 NW 94th Avenue
Alachua, FL 32615
Phone: (800) 669-2067
Fax: (386) 462-4330

Chiappini Farm

P. O. Box 436
Melrose, FL 32666
Phone: (800) 293-5413
Fax: (352) 475-5268

Deepsouth Pine Nursery, Inc.

5500 Boomerang Road
Bascom, FL 32423
Phone: (888) 839-2488
Email: dpsofor@surfsouth.com

Delta View Nursery

659 Burdette Road
Leland, MS 38756
Phone: (800) 748-9018
Email: hardwoods@tecinfo.com

Georgia Forestry Commission

9850 River Road
Byromville, GA 31007
Phone: (229) 268-7308
Email: jfields@gfc.state.ga.us

Georgia SuperTree Nursery

#78 Supertree Lane
Shellman, GA 39886
Phone: (800) 554-6550
Fax: (912) 679-5628
Email: recross@arborgen.com

H & H Nursery

Mark Hains
5457 Harts Bridge Road
Andalusia, AL 36420
Phone: (334) 427-1029
Fax: (334) 222-0581
Email: hains@alaweb.com

International Forest Company

Wayne Bell
1265 Georgia Highway 133 N
Moultrie, GA 31768
Phone: (800) 633-4506
Fax: (229) 890-0087
www.interforestry.com

The Liner Tree Farm, Inc.

P. O. Box 701369
St. Cloud, FL 34770
Phone: (800) 330-1484
Fax: (407) 892-3593
Email: linerfarmink@aol.com

Seedling Sources for Landowners

(Continued from page 29)

Meeks' Farms & Nursery, Inc.

George Meeks or Steve Meeks
187 Flanders Road
Kite, GA 31049
Phone: (877) 809-1737
Fax: (478) 469.3150
Email: steve@meeksfarms-nurserys.com

Sales: AL, MS, and TN
Peter Frankowski, Demopolis AL
Phone: (888) 397-0106

Sales: FL, MS, and TX
Mickey Parker, Pensacola FL
Phone: (850) 572-3932

Sales: SC, NC, LA, and AR
Jack Chappell, Swainsboro GA
Phone: (478) 237-6863

Plum Creek Timber Company Jesup Nursery & Seed Orchard

1689 Nursery Road
Jesup, GA 31546
Phone: (912) 427-4871
Fax: (912) 530-8438

Plum Creek Timber Company Pearl River Nursery

1032 Camp Lane
Hazlehurst, MS 39083
Phone: (601) 894-1072
Fax: (601) 894-3477
Email: kevin.barfield@plumcreek.com

Plum Creek Timber Company Shubuta Nursery

1444 Shubuta-Eucutta Road
Shubuta, MS 39360
Phone: (601) 687-5766

Smurfit-Stone Container Corporation

4346 Parker Springs Road
Brewton, AL 36426
Phone: (251) 867-9480

South Carolina Forestry Commission

Box 219
Trenton, SC 29847
Phone: (803) 275-3578
Fax: (803) 275-5227

South Carolina Nursery

Gary Nelson
5594 Hwy 38 S
Blenheim, SC 29516
Phone: (843) 528-3203

Superior Trees, Inc.

P. O. Box 9400
Lee, FL 32059
Phone: (850) 971-5159

Tennessee Department of Agriculture

P. O. Box 59
Delano, TN 37325
Phone: (877) 868-7337
Fax: (423) 263-1626
Email: johnconn@state.pn.us

Weyerhaeuser

Pine Hill Nursery

3890 Highway 28 West
Camden, AL 36726
Phone: (800) 635-0162
Fax: (334) 682-4481
Email: kimmie.vanwyck@weyerhaeuser.com

White City Nursery

Louis Olivier
707 County Road 20 W
Verbena, AL 36091
Phone: (334) 365-2488
www.wcnursery@bellsouth.net

The Wildlife Group

Allen Deese
2858 County Road 53
Tuskegee, AL 36083
Fax: (800) 221-9703
www.wildlifegroup@mindspring.com 

Water Quality Services

(Continued from page 15)

Landowners can also form groups that can help to link buyers and sellers together.

There is no doubt that water quality trading programs are superior to the traditional command-and-control and fee systems. Expected cost-savings in trading is the main reason for pursuing nutrient trading. The market for water quality has a strong theoretical basis and has received significant political support in the United States in recent years. However, it cannot be a sole substitute for water quality regulations. Given the huge forest base of Alabama and the excellent water quality services that forests can provide, forest landowners possess an extraordinary potential to play a major role in water quality trading. But, a water quality trading program may not be successful without a cooperative action by landowners, the government, NGOs, and the regulated parties. Organizations such as Westervelt Ecological Services (WES), the Alabama Land Trust, Inc., and the Land Trust of Huntsville & North Alabama have been actively involved in the preservation of this state's natural resources. They perhaps can play yet another important role in the task of providing clean water to Alabama by working together with landowners and government agencies. ♻️

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Carbon Sequestration

(Continued from page 11)

Glossary of Carbon Market Terms

Additionality: The quantity of carbon offsets issued to an individual property enrolled in program, based on the net annual increase in stored carbon (expressed in metric tons of CO₂ equivalence), over and above the property's initial baseline inventory.

Afforestation: Planting trees on land that was previously used for crops or pasture.

Aggregator: A market-authorized trader that can sell carbon credits.

Aggregation Fee: Fee charged by aggregator and deducted from each enrollee's payment received from the sale of carbon credits.

Carbon Credit: A market term for one metric ton of carbon dioxide equivalent (CO₂e); also known as Forest Exchange Offset (XFO).

Chicago Climate Exchange (CCX): North America's global marketplace for integrating voluntary legally-binding emissions reductions with emissions trading and offsets for all six greenhouse gases.

CCX Transaction Fee: Fee charged by CCX and deducted from each enrollee's payment received from the sale of carbon offsets through the CCX Trading Platform.

Certification: An evaluation provided by a nationally-recognized, natural resources-affiliated organization that confirms forests are managed sustainably on a long-term basis and not converted to other, competing uses.

Cap & Trade: Is an administrative approach used to control pollution by providing economic incentives for achieving reductions in the emissions of pollutants. It is sometimes called Emissions Trading.

Forest Carbon Baseline: The quantity of carbon (expressed in metric tons CO₂ equivalent) stored on an individual property at the time it has completed all requirements necessary for enrollment.

Forest Service Provider: A register forester that assists a forest landowner with selling carbon credits.

Inventory: Quantitative method used to estimate the actual volume, composition, and market value of standing timber.

Managed Forests: Forested land harvested in accordance with an approved forest stewardship plan, forest certification, and a current forest inventory.

Pooled Projects: The total quantity of individual properties an aggregator represents.

Verifier: A technical expert, approved by market or registry, who verifies the amount of carbon offsets an aggregator calculates is present on an individual property. ♻️

For more information, contact your local Alabama Forestry Commission office or visit our website at www.forestry.alabama.gov



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Alabama's Champion Catalpa Tree

(Catalpa bignonioides)

By Don C. East, member of the Clay County Forestry Planning Committee

(Reprinted in part with permission from The Clay Times-Journal)

*"I think that I shall never see
A poem as lovely as a tree . . ."*

- Alfred Joyce Kilmer, American poet, 1913

Most of us know the Catalpa tree as a scrawny bush-like tree growing along the banks of the area's beautiful creeks, where we find our yellow and black Catalpa worms used for fish bait. However, recently a Clay County specimen of the Catalpa tree was recognized as a State Champion Tree. When a group of family, neighbors, and friends gathered under this magnificent tree at the Eloise [DeVaughn] Samuels property in September 2008 for the official award ceremony, it was already beginning to show a hint of autumn color in its leaves.

With a circumference of 200 inches, a height of 64 feet, and a crown spread of 68 feet for 281 total points, this specimen also holds the record for the oldest Catalpa tree in the state of Alabama. At 212 years of age, this tree began its growth in 1796, only 20 years after the birth of our nation. The champion tree has witnessed the Louisiana Purchase, as well as the War of 1812, Mexican War, Spanish-American War, Civil War, World Wars I and II, Korea and other crises since. It also witnessed the birth of the state of Alabama in 1819 and that of Clay County in 1866. This stately tree has also been present and used as a backdrop for

personal DeVaughn family events such as weddings, picnics, reunions, and Sunday afternoon get-togethers over the generations of the family. In fact, the original house on the property was sited mainly because of the presence of the tree as front yard shade and a horse hitching facility.

The Samuels property at the site of the champion Catalpa tree was initially acquired by Eloise's great grandfather, Wesley Freeman DeVaughn in the mid-1850s. After the property passed through her grandfather, Eloise inherited it from her father, John W. DeVaughn in 1978. In mid-1998, Eloise and her now-deceased husband, Ed Samuels, applied to have their property certified as an Alabama TREASURE Forest. After a rigid inspection by a forester, wildlife biologist, and soil conservationist, the property was certified in the autumn of 1998. This is the only certified TREASURE forest in Clay County that has "aesthetics" as the primary management goal. Anyone driving down Blakes Ferry Road cannot miss the

well-manicured home, flower gardens, fields, and forests of the Samuels farm. It is obvious Eloise feels a strong attachment to this family land. It has been said that land is the soil of the soul that teases man's body and spirit. Particularly in the South, it holds a firm grip on the psyche and is the source of much we cherish and value.

As Eloise's son, Vaughn, reflected during the award presentation, "This tree's great life reminds us how temporary our own are in comparison." This huge Catalpa is much more than just a tree . . . it's also a member of the DeVaughn family and a witness to most of our nation's history." 🌳

