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Upcoming Workshops of Interest to Landowners

The Chatham County Center, North Carolina Cooperative Extension, is conducting a number of workshops in coming months which will be of interest to Chatham County landowners. We are applying for continuing forestry education credits for these workshops. If approved, qualified participants would receive credits toward the Society of American Foresters Continuing Forestry Education Certificate. The registration fee for each workshop is $5.00 per person in advance or at the door. Please call Jane Tripp, Extension Secretary, at 542-8202 to pre-register. The fee includes workshop materials, advertising, and refreshments. Make checks payable to: Chatham County Cooperative Extension. Mail to: Cooperative Extension, PO Box 279, Pittsboro, NC 27312-0279. You can also register at the Chatham County Extension Center at the County Agriculture Building in Pittsboro. Office hours are Monday-Friday 8 a.m. to 5 p.m. For more details, call Glenn Woolard, County Extension Director, at (919) 542-8202, email to glenn_woolard@ncsu.edu or visit our web site at http://chatham.ces.ncsu.edu.

Biomass, Bio-char, Cellulosic Ethanol, and Carbon Trading

Thursday – March 6 – 7 pm – Biomass, Bio-char, Cellulosic Ethanol, and Carbon Trading
◊ Dennis Hazel – Extension Forestry Specialist -- North Carolina State University
◊ Christopher Hopkins – Extension Forestry Research Associate – North Carolina State University
◊ Mark Megalos – Extension Forestry Specialist --- North Carolina State University

Biomass
◊ Why is there such a surge of interest in renewable energy?
◊ What is “biomass energy” and why is there particular interest in North Carolina?
◊ What kinds of uses are there for biomass-based energy?
◊ What will markets for biomass energy, including wood, mean for North Carolina forest landowners?
◊ Shouldn’t we be looking at wind and solar instead of wood for energy?
◊ Will biomass energy be good for the environment or will it harm it?

Bio-char
◊ Bio-char is biomass that has undergone heat treatment (pyrolysis) and has had significant changes to its chemical properties
◊ When bio-char is added to soil it can dramatically increase crop production and improve soil properties.
◊ Small amounts of bio-char (<8 tonnes carbon/ha) improve overall fertility (20-80% increase in yield) compared to controls.
Biomass, Bio-char, Cellulosic Ethanol, and Carbon Trading

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◊ The addition of bio-char to soils, plus their increased growth on those soils could lead to bio-char being a method to sequester large amounts of carbon on very large scales in a relatively short time period.
◊ Several technologies are being developed regionally to exploit the energy/fertilizer/carbon sequestration benefits of bio-char.

Carbon trading
◊ What is carbon trading?
◊ Is there a Federal policy which limits CO2 emissions?
◊ Can local timber owners make money in carbon trading?
◊ What are the current carbon trading highlights, procedures and costs?

Forestry Ordinances and Regulations

April 10 -- Thursday – 7:00 pm –
Dr. Robert Bardon – Extension Forestry Department Leader, North Carolina State University

◊ -- Chatham County’s population increased 17% between 2000 and 2006
◊ -- About 60% of Chatham is in timber land
◊ -- Timber is second highest income crop in Chatham
(Poultry and eggs are first.)
◊ -- Chatham County ranks 14th in state in timber income
(stumpage)
◊ -- Who or what will decide how you are able to use your timber land in the future?
◊ -- What forestry regulations and ordinances are currently in place?

Forest landowners and others involved with forest management practices need to know about county and municipal jurisdictions and land use laws and regulations that apply to their forestlands. Local land use regulations can impact forest harvesting, thinning, and replanting. Forest landowners may have to bear the burden of substantial fines, legal costs, restoration costs, and other expenses if zoning and other land use regulations are violated. To avoid fines and penalties, landowners must know which land use regulations apply to their property.

Pine and Hardwood Management

May 8 – Thursday – 7:00 pm
Dennis Hazel – Extension Forestry Specialist – North Carolina State University

Pine Management – Characteristics of quality pine sites, successful establishment of pine stands, practices that enhance vigor and growth of pine stands
Hardwood Management – Crop tree management for hardwoods, crop tree release and its benefits, sites best suited for crop tree release, advantages and disadvantages of mixed pine / hardwood stands

As Chatham County’s population grows and development increases, local governments face the challenge of managing growth while preserving the rural heritage of the county, especially as trees and other vegetation that serve as buffers are cleared. As trees are removed, for development, perceived and real environmental impacts may result in more restrictive or prescriptive land use regulations. Regulations may be created as citizens voice their concerns about the removal of individual trees, or cutting of multiple trees, on private property. These regulations may exempt certain forestry practices or restrict the extent to which forestry can be conducted.

Forest Herbicides

Thursday — May 29 — 6:30 p.m.
Presenters not confirmed. Call for details. Applying for pesticide certification credits

4-H Forestry Wildlife Day Camp

June 11-13 (Wednesday-Friday) --
Jordan Lake Educational State Forest
Volunteers are needed to serve as group leaders for groups with about ten boys and girls in each group. Group leaders rotate the groups to the various educational stations throughout the day.
What’s Going On with Biomass Energy in North Carolina?

We are now seeing unprecedented interest in renewable energy in the United States and North Carolina. Why? One important reason is our addiction to nonrenewable fossil fuels such as coal, natural gas, and oil. Oil is a special concern since the U.S. uses about 29% of world production, yet we have only about 2% of world supply. A second reason for interest in renewable energy is that harvesting wood for energy will be a relatively low-valued forest product. Extension Specialists at NC State University say that trees capable of making traditional valuable products such as sawtimber will not be used for energy. They are working with a variety of stakeholders to ensure that harvesting wood for energy will be done in an environmentally friendly and sustainable way.

Bio-char - A Material with Amazing Potential for North Carolina

Bio-char can be charcoal, torrefied biomass or almost any partly combusted plant material. Bio-char is biomass that has undergone heat treatment (pyrolysis) and has had significant changes to its chemical properties. Typically the volatile compounds and hemicellulose are eliminated and the cellulose and lignin remain. While the bio-char has value as a fuel (its energy content is similar to that of coal), it also has value as a soil amendment and for carbon sequestration.

When bio-char is added to soil it can dramatically increase crop production and improve soil properties. Terra preta or agrichar soils are found in former settlement and agricultural areas in the Amazon. The original Amazonians added bio-char to these soils to improve soil fertility 500-7000 years ago. These soils still retain their carbon and fertility and even today they are transported and sold as a high quality soil. Bio-char has a high pH, an excellent ability to absorb nutrients (cation exchange capacity or CEC), low density, high porosity and can also promote the growth of beneficial soil mycorrhizae.

Southern US soils are sufficiently similar to tropical Oxisols and Ultisols so that the tropical results can be used for North Carolina estimates. Small amounts of bio-char (<8 tonnes carbon/ha) improve overall fertility (20-80% increase in yield) compared to controls. Large amounts of bio-char can be added to soil, perhaps as much as 100 tons or carbon per acre, without any negative impacts on plant growth.

Bio-char is also very stable, with some work suggesting a half-life of 1000 years. Bio-char could therefore be means to store huge amounts of carbon and therefore address climate change while providing benefits to agriculture and the environment. The addition of bio-char to soils, plus their increased growth on those soils could lead to bio-char being a method to sequester large amounts of carbon on very large scales in a relatively short time period.

Several technologies are being developed regionally to exploit the energy/fertilizer/carbon sequestration benefits of bio-char. The University of Georgia is developing bio-oil for diesel blending along with bio-char production. North Carolina State University is leading the development of mobile wood torrefaction equipment for in-field bio-char production targeting coal combustion and soil amendment applications. NCSU will field a mobile torrefaction unit this spring. Concurrently we will also establish field trials of various levels of bio-char on fertilized
Can Landowners Profit from the Growing Carbon Trading Market?

Lots of excitement and interest is growing around the US carbon market which amounted to $54 million during 2007 (NY Times). Many of us hear about the businesses that are “going carbon neutral” in response to climate change concerns around carbon dioxide. The carbon offset market offers a voluntary market-based solution to a pollution problem. Unfortunately until a public policy mandate to reduce carbon is finalized and a cap on total carbon dioxide emissions is set, carbon will trade at very low values.

Yet, the infancy of the carbon market allows for forest landowners to explore whether their afforestation and forest management practices could translate into future dollars. Forests are natural carbon storage solutions that capture and store carbon dioxide for decades and even centuries. Policy makers and promoters are studying the extent to which trees can realistically facilitate carbon sequestration in the future. As with anything new, the devil is in the details. While procedures are being developed some clear direction is impossible to discern. Forest landowners interested in selling a commodity, that heretofore was not available to them, should learn all they can and prepare to pounce on the opportunity should it meet their long-term goals.

Until then they’d be wise to:
• Keep an ear to the ground for new developments

• Await a Federal Policy which limits CO2 emissions (Cap and Trade)
• Analyze current program highlights, procedures and costs
Proceed with caution

Streamside Management Zones

Streamside Management Zones (SMZs) are buffer strips of vegetation adjacent to perennial and intermittent streams or other water bodies such as lakes and reservoirs. In these SMZs, forestry practices such as logging and site preparation operations are required to take special precautions to protect water quality.

SMZs are important for many reasons:
• Trees, shrubs, ground vegetation, and the forest floor debris all help capture and filter out mud, sediment, and man-made chemicals such as pesticides and fertilizers.
• SMZs provide shade to maintain water temperatures for organisms and aquatic life that may live in the water, or along the stream bank itself.
• SMZs also can supply naturally occurring debris such as leaves and decaying logs, which can provide important nutrients and habitat for aquatic organisms and insects. These insects are a critical food source for fish and other wildlife.

In North Carolina, SMZs are required to be established alongside any intermittent or perennial stream or water body, as part of the Forest Practices Guidelines Related to Water Quality, or “FPGs”. The FPG .0201 requires an SMZ be established of “sufficient width to confine within the SMZ any visible sediment resulting from accelerated erosion.” A table of recommended SMZ widths based upon the type of stream and slope of nearby land is available in NCDFR’s Forestry Best Management Practice Manual.

BMP Guidelines to Apply:
• Determine appropriate SMZ widths prior to conducting any timber sale or forest practice.
• Follow the NCDFR BMP manual recommendations for establishing SMZ widths
• Selective harvest in the SMZ area.
• Leave no more than 20% bare ground along perennial streams, and no more than 40% along intermittent streams.
• Maintain a minimum of 75% of the pre-harvest shade on the stream channel.
Avoid crossing the stream. If a crossing is needed, use bridgemats whenever possible.
• Construct roads, log decks, staging areas, and skid trails outside of SMZs.
• Firebreaks should be installed parallel to streams and outside of SMZs.
• Minimize the intensity of prescribed fire in SMZs

Practices to Avoid:
• Cutting trees that are located directly on the stream bank.
• Unnecessary access roads and skid trails.

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Streamside Management Zones

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- Log decks or portable sawmills.
- Significant soil compaction, rutting, or souping
- Removal of ground cover or understory vegetation.
- Felling or de-limming trees into the SMZ
- Servicing or refueling equipment.
- Mechanical site prep or tree planting.
- Broadcast application of pesticides or fertilizers.
- Handling, mixing, or storing toxic or hazardous materials within SMZ.

For more information on streamside management zones, see the North Carolina Division of Forest Resource’s Forestry BMP Manual, or contact your local NCDFR office. This information and related links are available at the NCDFR’s web site at: http://www.dfr.state.nc.us/water_quality/wq_smz.htm

Planning to Sell Your Timber?

It is risky to sell timber without having a good idea of its value and the current market conditions. Do what the pros do—sell your timber using a registered forester! Selling timber is like trading stocks and bonds. Seek sound professional advice and assistance to know when and how to sell. Be informed.

◊ Timber is often sold once in a lifetime.
◊ Timber prices depend on species, size, quality, competitive markets, and other factors.
◊ Timber harvesting affects the future of your land, as well as the condition of water, wildlife, aesthetics, and young timber.
◊ Timber harvesting laws and regulations must be addressed to avoid fines.
◊ Tax laws on timber sales can be complex, and a forester can help explain them.
◊ It is important to plan for reforestation. Financial help is available for this.

Get Help

A forester is a phone call away! When selling your house, stocks, or bonds, you probably seek professional help. You should seek the same level of advice when deciding whether to sell or hold your timber.

Public and registered consulting foresters are available to provide just such help. Public foresters can provide advice, while consulting foresters can provide advice as well as handle all aspects of selling timber. In North Carolina, you can hire a registered consultant forester. To verify if a forester is registered in North Carolina, contact the N.C. Board of Registration for Foresters at 919-847-5441 or http://members.aol.com/nc-brf/.

A forester can make and save you money:

◊ By determining the maturity, value, and demand for your timber.
◊ By advising you on selling forest products, applying for cost sharing, and minimizing taxes.
◊ By handling legal and regulatory issues, reforestation planning, and water quality concerns.

◊ By making long-term management plans.

See a forester first

A North Carolina couple recently was offered an unsolicited bid of $20,000 for their 20 acres of mature pine sawtimber. Realizing the complexity of selling timber, the couple hired a consulting forester to watch out for their interests. The consulting forester, who worked by contract for a percentage of the gross revenue, conducted a sealed-bid timber sale. Gross revenue from the sale was $39,895 -- $19,895 more than the original unsolicited bid. This increase in income was significantly higher than the fee charged by the consulting forester.

Sources:

Sample Invitation to Bid

Invitation to bid

I, Joe Pine, offer for sale to the highest bidder all standing timber within the prescribed boundaries of 30 acres as indicated on the enclosed map. The tract is bound by hard-surfaced roads, and logging conditions are excellent.

Location. Tupelo County—5 miles east of Sycamore on State Road 1492, as indicated on enclosed county map.

Timber. The timber consists of the following species:

- Loblolly pine: 1,660 trees 12 inches DBH and above, averaging 16 inches DBH, and scaling 332,000 board feet (Scribner rule), and 600 cords in tops and smaller stems.
- Sweetgum: 33,000 board feet, Doyle rule.
- White Oak: 15,000 board feet, Doyle rule.
- Yellow-poplar: 12,300 board feet, Doyle rule.

Quality. The above timber is of excellent quality for export timbers, veneer, or prime sawlogs. The estimate is based on a 100 percent cruise by John Silverbell. It is shown here for information only and is not construed as implying or guaranteeing any specific amount of timber by the owner.

Inspection. The boundaries were recently surveyed and are well marked by paint, with blue flagging indicating the run of the creek. A recent aerial photograph is available for inspection at my home.

Bids. Bids must be for a single, lump-sum amount. A minimum of 5 percent security deposit will be required of the successful bidder on the day of the sale, with the balance of payment due within 30 days. Bids will be opened at my home promptly at 11 a.m. on Saturday, January 27. You may bring your sealed bid to my house on or before January 27, or, if you wish, you may mail your bid to Joe Pine, Box 2, Sycamore, NC 27001, marking the lower left corner of the envelope “Timber Bid.” The owner reserves the right to reject any or all bids. We invite your inspection, appraisal, and bid.

Condition of Sale

1. The buyer may have 24 months from the date the contract is signed in which to cut and remove the timber. The buyer will have the privilege of an additional year for 6 percent of the purchase price, provided that said payment is made before the expiration of the original cutting time.

2. The buyer is to comply with all best management practices in accordance with the Forest Practice Guidelines (15 NCAC 1L 0101-0209) and make reasonable efforts to cut trees so that they will not fall into cultivated fields, pastures, crooks, or ponds and will immediately pull all tops and limbs back into the cutting area. The open land shall not be used to bunch, deck, or load logs. Fences and roads must be left in a condition no worse than before the sale (although any “in-woods” fencing within the cutting area may be ignored).

3. The buyer will use only those roads specifically designated by the owner for moving equipment and hauling.

If you have any questions please contact:

Joe Pine
Box 2
Sycamore, NC 27001
Telephone: BR-649
Southern Pine Beetle Prevention

The best way to prevent Southern pine beetle from attacking pines is to promote good forest health. Healthy trees can usually defend themselves from normal beetle attacks.

Good planning and planting the proper tree species on a site will give the forest a good healthy start. Once established, pines need plenty of sunlight, nutrients and water to grow. Care should be taken to make sure there are not too many trees on a site competing for these basic needs. If crowded or over-stocked, thinning may be necessary. A forester or county ranger can assess forest land and determine if thinning is necessary to promote forest health.

In some cases, when trees are older and larger, revenue can be made from the trees that are removed. On the other hand, in younger forests sale of the wood from thinning may not feasible. These stands would still benefit from being thinned--this is called a "pre-commercial" thinning. In addition to health benefits, future revenues from forest products, and improved aesthetics and wildlife habitat may be realized from thinning these forests. In stands where pre-commercial thinning may be necessary, the NCDFR's Southern Pine Beetle Prevention Program may assist with some of the cost of thinning.

How Can You Recognize Southern Pine Beetle Damage?
• Needles of infested pines turn yellow or straw-colored within two or three weeks of attack, before finally turning reddish-brown.
• Reddish-brown particles of boring dust may be seen in bark crevices and at the bases of dead or dying trees.
• Small light-yellow to reddish-brown tubes, often resembling popcorn, may be seen on the bark in the middle and upper sections of the trees. Upon removal of a section of bark, winding S-shaped egg galleries may be seen. C-shaped larvae, pupae, and new adults may sometimes be seen within the bark itself.

Control Tactics
Salvage removal or harvesting infested trees is the preferred direct control method since infested trees are removed and utilized, giving the land-owner some financial return. Prompt treatment after spot detection will minimize additional timber loss from spot growth. When salvage of a spot is not feasible or must be delayed for long periods, active infestations should be treated by the cut-and-leave method. The cut-and-leave method is an effective means of controlling small remote spots that cannot be salvaged. The method involves felling infested trees in a prescribed manner and leaving them in the forest. The treatment disrupts spot growth and disperses the emerging adult beetles. Spots should be treated only if they contain freshly attacked trees. A buffer strip or "zone" of green, uninfested trees must be felled and left around each spot to assure that all newly attacked trees are included in the treatment.

Source: NC Forest Service web site --- http://www.dfr.state.nc.us/health/health_spb.htm

Forestry Web Sites

National Timber Tax Website --- http://www.timbertax.org/
Chatham Extension Center – Forestry web site --- http://chatham.ces.ncsu.edu/content/Forestryindex
Extension Forestry – North Carolina State University --- http://www.ces.ncsu.edu/nreos/forest/