



Forestry, Wildlife & Fisheries Update Newsletter

Department of Forestry, Wildlife and Fisheries
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In This Issue

Notes from the Web - Timbertax.org	Page 1
Wildlife Management Calendar for October	Page 2
Fall Color and Tennessee Trees	Page 4
Graded Lumber and the Building Code	Page 4
Considerations When Hiring a Tree Care Company	Page 5
Just Say No to High-Grading	Page 6
Hard Mast Production	Page 7
Procedures for Surveying Hard Mast	Page 9
Hardwood Analysis and Trends - September 2005	Page 10

Notes From the Web - Timbertax.org

Samuel Jackson, Web Coordinator, Extension Forestry

Timbertax.org is all-new! The site has been up for a few years and has recently been completely revised with a new look and more information. The National Timber Tax website, <http://www.timbertax.org>, was developed by Purdue University in cooperation with the United States Forest Service to help landowners understand the current tax laws and how they apply to forest resources. It also helps users to understand the various options that are available for estate planning. There is a large amount of background information found on the site covering everything from Tax Tips each year to Tax Strategies and Timber Appraisals. This information will begin to help decipher the complicated web of tax information for landowners.

In addition to the background information about taxes and planning, the website has several unique features. The first of these is the section on "State Tax Laws." Here users can find tax information specific to Tennessee or other states. It includes property tax information as well as links to the state tax department. The site also posts current news updates about tax legislation, issues, or events. Currently, the site has information about timber casualty losses due to natural disasters and information on how the Jobs Creation act relates to private landowners.

These features and others help make the site very easy to navigate, interactive, and full of valuable information. This would be a good site to refer to landowners and then recommend that they share it with their accountants. Many accountants also need this type of information and it can help solve some paperwork headaches in the long run by helping them to understand the timber tax laws.

Encourage your clientele to visit the site and learn about their options. Understanding taxes on private lands and timber sales is the first step to managing your forest income wisely.

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Wildlife Management Calendar For October

Craig Harper, Associate Professor, Wildlife Management

Habitat Management

Spray perennial cool-season grasses (e.g., tall fescue and orchardgrass)

- October through early November is the optimum time to kill these grasses!
- spray in preparation to plant native warm-season grasses next spring and/or to release the seedbank
- use 2 quarts Roundup or 10 – 12 ounces of Select with 1 pint methylated seed oil (rates are per acre) if field is dominated with cool-season grasses and/or if orchardgrass is present
- use 12 ounces of Plateau or 32 ounces of Journey with 1 pint methylated seed oil (per acre) if desirable forbs are present and tall fescue is dominant grass
- refer to *A Landowner's Guide to Native Warm-Season Grasses in the Mid-South*, PB 1746, for additional information on eradicating perennial cool-season grasses

Burn and disc old-fields for brood habitat

- will stimulate forb growth next spring
- will reduce grass dominance where nwsgr have become too dense
- will reduce woody encroachment by sweetgum, elms, and other non-desirable woody saplings in the field
- don't be afraid to burn; prepare adequate firebreaks by discing around the perimeter of the field and burn against the wind
- Smokey Bear actually likes burning – it provides him with more food!

Prepare firebreaks to burn old-fields next March

- discing now will stimulate forbs next spring
- firebreaks can be planted to cool-season food plots if desired

Plant firebreaks and other disced strips not left for natural vegetation

- annual cool-season grains (e.g., wheat and oats) along with annual legumes (crimson and arrowleaf clover and Austrian winter peas) are excellent choices

Establish hedgerows across fields with soft-mast bearing trees and shrubs

- also plant in blocks at end of fields or in "odd" areas
- crabapple, persimmon, wild plum and others are good choices

Finish planting cool-season food plots

- use pre-emergence herbicides for best results
- refer to *Growing and Managing Successful Food Plots for Wildlife in the Mid-South*, PB 1743, for additional information on seeding rates and management recommendations

Spray perennial forage food plots for weed control if necessary

- refer to *Growing and Managing Successful Food Plots for Wildlife in the Mid-South*, PB 1743, for specific information

Continue to strip-mow or silage chop dove fields to provide seed and hunting opportunities

- strips can be disced and top-sown with winter wheat (2 bushels per acre) to provide additional forage opportunities

Timber Stand Improvement

- stimulate growth among oaks, beech, cherry, persimmon, and other mast producers by killing surrounding competitors
- girdle unwanted trees and spray wound with a mixture of Garlon and Arsenal AC
- use 1 quart Garlon 3A and 6 ounces Arsenal AC filled to 1 gallon of water

Build brushpiles from thinned trees and pruned limbs

- put large limbs on bottom and small limbs on top for crevice space and overhead protection

Sow winter wheat along edges of flooded fields to provide important forage for migrating Canada geese and American widgeon later this winter

Wildlife Damage/Population Management

Close crawl spaces under the house and check for openings in the attic

- helps keep snakes, skunks, and squirrels from getting into places where they are not welcome
- rodents are beginning to cache food for the coming winter; take action now to keep them out of your house

Bats are leaving summer hang outs for winter hibernacula

- allow bats to leave attics before closing crevices, then make sure all openings are closed so they can't get back in next spring/summer

Blackbirds and starlings are gathering into large winter flocks

- don't allow them to roost in your trees; if they start, they'll form a habit
- repel them with noise makers (shotguns, firecrackers, banging metal pans together)
- be persistent

Clean out bluebird boxes to allow more room for roosting bluebirds when cool weather arrives

- 10 or more bluebirds may roost in a single box on cold nights

Clean out wood duck boxes and replace old wood shavings with fresh shavings

- screech owls and squirrels may use the boxes through fall and winter
- repair/install predator shields if necessary

Put up bird feeders

- it's not too early
- refer to *Improving Your Backyard Wildlife Habitat*, PB 1633, for information on specific feeders and seed for birds

Deer hunting season is underway

- allow hunters access to your land if you have a problem with too many deer
- shoot the females (does); concentrating on bucks does little to control overpopulation
- in many overpopulated areas, it is necessary to kill 1 doe per 10 acres (sometimes more) before the population is reduced to acceptable levels
- where Quality Deer Management is desirable, reduce the population so plenty of forage is available, shoot does to even the sex ratio, and allow bucks to reach 3 ½ years of age before shooting them (refer to *Quality Deer Management: Guidelines for Implementation*, PB 1643, for additional information)

Fall Color and Tennessee Trees

David Mercker, Extension Specialist I, Forest Management

The process of leaves changing colors is very gradual, actually beginning with the summer solstice. Leaves owe their green color in summer to the pigment *chlorophyll* which is important in the absorption of light energy in the process of photosynthesis. When days become shorter and weather becomes cooler, plants stop producing chlorophyll. As the chlorophyll breaks down, the more stable yellow pigments (carotin and xanthophyll) and red pigment (anthocyanin) become visible.

Tennessee is well known for its fall colors. Because so much of our land is rolling hills, mountains, and swamps, forestland is the most prevalent land-type . . . 55 percent of our state's land is covered with trees. This makes for an impressive autumn show, and one that is quite lucrative for enterprisers in the tourism industry.

Which colors are the most common? This varies according to the region within the state, the aspect (or direction) a forested slope faces, and position on a slope (lower, middle, or upper slope). For instance, we know that tulip poplar and sugar maple prefer slightly cooler sites over those decidedly wet or dry. Hence a northeasterly facing slope might favor the more colorful poplar and maple, whereas a southerly facing slope might contain less flashy oak.

Fall leaf colors can be placed into one of three categories: yellow, orange/red, and burgundy/red. Yellow is the most common color, though it may not always be the most visible. Many of the species showing yellow are often the shorter, understory trees, that are hidden by the taller, overstory trees. A summary of common tree species in each of the three color categories follows. The list is useful to homeowners who are considering planting trees in their yard too.

1. Yellow – cucumber tree, pawpaw, redbud, fringe tree, black cherry, red mulberry, white mulberry, American beech, sweet birch, river birch, hop hornbeam, tulip poplar, American elm, slippery elm, winged elm, chestnut, black walnut, hickories, black locust, white ash, green ash, box elder, and sycamore.
2. Orange/red (and occasionally yellow) – sassafras, sugar maple, red maple, sumacs, and sweetgum.
3. Burgundy/red – blackgum, sourwood, dogwoods, blackhaw, and oaks (although oak often turn brown due to high tannin content).

Those who appreciate Tennessee fall colors, should thank one of the 470,000 private forest landowners who make such scenes possible . . . and at no charge to the viewer!

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Graded Lumber and the Building Code

Adam Taylor, Assistant Professor, Wood Products Management

Most houses in Tennessee are framed with wood. Even if the outside has brick or stone siding, chances are that the structure of the floor, walls and roofs is made of softwood lumber. Most of the lumber used in building comes from large sawmills, but can the do-it-yourselfer with a portable sawmill use “home-made” lumber for their building projects? Maybe not...

Because the safety and lasting value of your house depends on structural integrity of the framing, a system of lumber grading has been devised to ensure that the wood pieces that are used in building construction are up to the task. The U. S. Department of Commerce has established the American Softwood Lumber Standard PS 20-70 that covers the requirements for structural lumber. This grading system takes into account such factors as knots and grain pattern to predict the performance characteristics of the wood. Lumber grading is usually done by specially trained personnel at sawmills who visually inspect each piece of lumber. Lumber produced at these mills carries a stamp that lists the grade, species, grading authority and producing mill.

Many building codes specify the use of certain grades of lumber for specific applications. In these cases, un-graded lumber cannot be used. It is possible to hire an inspector to grade your lumber and qualified graders can be located through one of the major grading agencies, for example the Southern Pine Inspection Bureau. However, at a cost of over \$300 per day plus expenses, hiring you own grader can make your lumber more expensive than the factory-produced alternative.

In addition to carrying a grade stamp that satisfies the building code, lumber produced at sawmills has other advantages. Modern milling technology results in lumber that is often more uniform in size than the “rough sawn” lumber produced on portable sawmills. It is true that you can cut construction lumber that is a full 2” thick by 4” wide on a portable sawmill (as compared with the actual 1 ½” by 3 ½” dimensions of factory-produced “2X4”). However, this is not necessarily an advantage. Construction practices and accessories have been developed around the dimensions of factory-produced lumber. So, while a bigger piece of lumber may be stronger, the smaller, standard dimensions of factory-produced lumber are strong enough for normal building practices. Nails, insulation and other construction materials have been sized to fit the standard sizes too. Finally, most factory-produced lumber available in Tennessee (often southern pine) has been kiln dried. This reduces the weight of the lumber and helps to reduce the risk of mold and rot.

Cutting your own lumber or using wood from your own trees can be satisfying and can save money in some applications. However, using your own wood for framing lumber may not be “worth it” in the long run.

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Considerations When Hiring a Tree Care Company

Wayne K. Clatterbuck, Associate Professor, Forest Management and Silviculture

Most tree care companies are found in newspaper advertisements or the yellow pages of the telephone directory. A few calls are made and you find a company that says they can do the job at a low price. How do you know whether the company is reputable? The company sends a crew to do the job and while removing a limb, they drop it on your car or damage your house or property. Who should pay the damage? Ideally, the tree company should, but what if they do not have insurance? You contact your insurance agent and they instruct you to pay your deductible and the damage will be fixed. Then you go to small claims court and hope to get deductible back.

The story would be different if you asked for references and for proof of insurance from the tree care company. Beware of companies that call themselves “arborists” without the professional training needed for the job. There are many people with chain saws who indiscriminately top trees without the training necessary to ensure tree health. With hundreds and possibly thousands of dollars at stake, not to mention the integrity and appearance of your property and your personal safety, make sure that you take the time to ask questions and verify references when selecting your tree care company.

Generally, companies that are more disreputable tend to:

- Solicit work door to door.
- Ask for payment in advance.
- Advertise topping (definitely a poor tree pruning practice).
- Sell jobs without producing a written estimate or work order.

Check for the following when hiring a tree care company:

- Ask for copies of current, valid certificates of insurance.
- Solicit references to measure the company's abilities and professionalism.
- Get a detailed written estimate of the work needed and the cost
- Verify professional affiliations such as the International Society of Arboriculture (ISA) or Tree Care Industry Association (TCIA). Members of these associations should have the professional training to perform your tree care.
- Get a second opinion if it will add to your comfort level. Solicit several bids from reputable companies.

By taking the time in selecting your tree care company, you are more likely to be satisfied with the work and not have an unpleasant surprise if accidents occur.

Adapted from: National Arborist Association, 1999

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Just Say No to High-Grading

Wayne K. Clatterbuck, Associate Professor, Forest Management and Silviculture

Cutting the best trees (those of highest value) and leaving the low value, often diseased or malformed trees is too common. This type of harvesting is called high-grading where the highest grade or value trees are removed. By cutting only the largest and most valuable trees, the trees best suited to the site and usually growing at an acceptable rate are removed. The trees that are less well-adapted remain for the next forest and provides the seed source for future forests. The financial gains of high-grading exist only briefly, yet ownership objectives can be sacrificed for decades.

High-grading is often disguised under the names of “diameter-limit cutting” and “selective cutting.” All these descriptions are often rationalized by arguing to remove the bigger trees so the smaller trees can grow. However, the smaller trees are often of undesirable species, poor form, poor health and just as old as the larger trees being harvested. By any name, high-grading degrades the value of the forest.

A common cause of high-grading is the greed to maximize immediate profits. Sometimes markets are not available for lower-priced products, thus these trees are left in the woods. It costs just as much to cut and haul a \$10 tree as a \$300 tree of the same size. The result is that a more immediate profit is gained by cutting only the highest value trees, but left behind is a legacy of degraded trees and under-productive forests. This knowledge helps explain high-grading, but doesn't excuse it.

What are the consequences of high-grading? One result is that the trees that are left behind won't grow as quickly as the better quality trees that were removed and the time until the next harvest is lengthened. In addition, the next harvest will consist of the inferior trees previously left so the value at the next harvest will be reduced. If you magnify the practice of high-grading across a region, assuming the demand for wood products remains steady, then more acres must be harvested to meet the demand. While timber harvesting is not inherently bad, accelerated harvesting is not in the best interest of natural resources and conflicts with a growing demand by the public for accountability of natural resource management. As the value of the land to produce timber crops diminishes, the incentive to subdivide and develop increases.

So what can you do to avoid high-grading? One step is to work with competent and professional loggers and foresters. When selecting your forester and logger, ask for references, find out if the forester participates in continuing education programs, whether the logger has completed the Tennessee Master Logger Program and make a visit to forests or properties where they have worked.

Another step in avoiding high-grading is to have a written management plan. Your management plan will state your objectives and will keep you on track. The harvesting schedule in your plan will help you decide when harvesting is appropriate. Just because a forester or logger offers to cut your timber doesn't mean it is the best time for your interests. The value of trees increases greatly as trees become larger, and it is probably a safe assumption that good markets will continue to exist for high-quality trees.

Third, look for creative solutions for removing low-value trees at the same time the high-value trees are harvested. A harvest that removes high-value and low-value trees provides financial benefits not only from the harvested trees, but improves the quality of the residual forest. One way is to have the forester mark and the logger skid the low-value trees to the log landing. Then you can cut these trees for firewood or sell them to a firewood processor. Although this requires extra effort on the part of the landowner, logger and forester, which may not allow you to make as much money initially, the benefits, including greater future profits, will exist later during the growth of the forests.

Finally, get assistance from unbiased, knowledgeable people to help you develop long-term objectives and management plans. Contact area state foresters with the Tennessee Dept. of Agriculture, Division of Forestry who give free consultation and provide technical expertise and guidance on forest management. The local University of Tennessee County Extension Office can provide you with the educational information to make wise decisions about forestry and wildlife practices. Become a member of Tennessee County Forestry Association (CFA) composed of other forest landowners who provide nontechnical forestry information and can help you think through your management objectives. CFAs are landowner groups dedicated to helping other landowners enjoy their forest land. All these groups provide unbiased information and advice that will assist you in proactively managing your woodlot to meet your ownership objectives and avoid the pitfalls of short-sighted management.

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Hard Mast Production

Larry Tankersley, Extension Assistant, Forest Management

Many of us have stood near oaks that were full of acorns and marveled at the abundance. Other years we have been with the same tree and there were hardly any acorns. What is going on?

All trees have well designed mechanisms for reproduction. Seed is the result of sexual reproduction involving male and female flowers. Male flowers in oaks are the "pipecleaners" hanging all over the tree just before the leaves expand. Most have experienced the pollen flying for a few days every spring.

At the same time the male “catkins” develop, female flowers along the twig become “receptive” or prepared to accept pollen and develop acorns. These flowers are not showy like “flowers”, instead they look like miniature acorns. Once fertilized, these miniatures are ready to develop into the “mast” which is our concern. Red oak acorns take two years to mature, while white oak acorns mature in one growing season.

Development is a process where the embryo, or new genetic entity is produced, as well as the fruit around it. Many trees do not finish all the flowers that are fertilized. Late cold/frost can cause near total failures. Mast production in a frost pocket(topographic depression) or on a cold ridge is potentially more sporadic than other sites on the landscape.

Developing acorns are aborted thru the development phase depending on resources such as water and nutrition. Trees allocate these resource to what will ultimately become the mature fruit. Years with more water are potentially better mast years than others as long as diseases or insects are not a problem.

Nutrition is a very important concept to understand if mast production is a concern. First, it is typically assumed that most sites in Tennessee are endowed with adequate complements of essential elements to meet the nutritional requirements of a typical stand of hardwoods. The trees will grow and produce acorns without supplemental fertilization. Persons interested in fertilization, might be more successful in increasing mast production by redistributing the existing stocks of essential elements by removing adjacent trees that shade the crown of our preferred tree. These trees are also sharing the essential elements not to mention pore space in the soil and water.

Fertilization, however, typically does no harm. Essential elements from the air are always being deposited on sites and adding some “store bought” nutrients, animal waste or other sludge will be well received by the forest. Notice I said the forest, not necessarily our tree. Root systems of forest trees are far reaching, often two or three times the width of the crown. This is especially true of forest grown trees which typically have narrower crowns. A forest root system is a network of intermingle roots concentrated in the top 6-8 inches.

Additionally consider the nature of the fertilizer, highly mobile forms potentially leach through the system before the plants can pick them up. Also high nitrogen typically encourages what botanists call vegetative growth rather than reproductive growth. Vegetative growth is longer twigs not necessarily more flowers. This brings up an important point about the role of fertilizer. Additions to the system will be incorporated over time. We fertilize forest seed orchards regularly, with the expectation that the additional elements will be available when the tree does reach a reproductive phase at some point in the future.

Trees have “energy fluxes” over time. Reproduction for trees requires a pulse of energy to produce fruit. These energy pulses are predictable in that mature trees can be relied on to produce mast at regular intervals such as every 3rd or 4th year once they reach sexual maturity at age 20-30 years. One time-honored observation among seedsmen is that drought stressed trees seem to produce an abundant crop of fruit the following year. This phenomenon is often considered a reaction to ensure that the family goes on if the tree fails due to the drought.

We noticed abundant fruit crops for several successive years during the late ‘90s and early 21st century.

Mast production is an important goal for persons interested in abundant wildlife. It’s fascinating to study too! Let us know if you need more information.

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Procedures For Surveying Hard Mast

Larry Tankersley, Extension Assistant, Forest Management

One of the forest characteristics, I like to keep up with is the hard mast(acorns and nuts) my trees are producing. Mast production is essential to healthy wildlife in Tennessee. Hard mast is important for conditioning, breeding capacity and weight gain for many species of forest wildlife.

A hard mast survey assesses and measures hard mast production. When conducted annually trends can be noted and thoughtful predictions about the condition of certain wildlife species can be made. Hard mast production seems to be related for instance to the body weight of yearling deer and the reproduction of black bears and wild hogs. Here are a few guidelines for surveying your woods for hard mast.

Plan to run the same route through your forest every year, between the third week of August and the second week of September. Later is fine but keep in mind animal usage will start by October.

Select individual trees and mark or otherwise note their location so that you can visit them every year. For each tree record its species.

With binoculars, look over the entire crown of the tree and determine what percentage of the total live crown has acorns. Rounding to the nearest 10% is typically used. Note the percentage of the crown with acorns/nuts on a mast survey form.

A suggested mast survey form will have five rows of three columns. Each row be used to collect information from five selected limbs in the crown of the tree. For this survey a limb is a roughly three foot section of the end of a branch. Selecting five limbs distributed around the tree's crown serves as a sample. Quickly selecting a branch will approach a "random survey" Avoid selecting only heavily-laden branches or those with not fruit at all.

Once a limb is selected, the first column of our form requests the total number of twigs with and without mast on our three foot long limb. A twig is best described as the woody shoot growing from buds last year or the year before.

Next record the number of twigs with acorns. Depending on whether the tree is a red oak or a white oak will determine where on the twig to look for acorns. Red oak acorns take two years to mature therefore the acorns will be on the old growth away from the end of the twig. White oak acorns mature in one growing season and are found on the most recent growth near the end of the twig.

In the final column record the total number of acorns on that limb. You get to count 'em! On the same tree, follow the previous steps until five limbs have been surveyed.

Totaling the columns completes the survey for this tree.

Depending on the size of your forest and your general level of interest you could sample individual trees or stands of trees. Information gathered will begin a general process of rating the mast available to the other members of your forest community from the weevils to the deer and turkey. You also can determine good years with abundant acorns that you could tend into your next crop of trees. Conducting this survey annually, using the same trees and or stands of trees, will allow you to quickly and inexpensively evaluate your relative hard mast production. Small differences in production may be difficult to detect but moderate to large differences over time will be interesting and useful.

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Hardwood Analysis and Trends (HAT)– September 2005

David Mercker, Extension Specialist I, Forest Management

Because the recent hurricane damage drove prices for petroleum prices to new record highs, the wood products industry has suffered considerably. Shortages of diesel, coupled with the high cost of it, have been particularly hard on hardwood sawmills that rely heavily on gate-wood log deliveries. The effect on the entire US economy is not yet certain. With the exception of black walnut which enjoyed a 1.5 percent increase in price over the past month, there are no price changes to report for September

Red Oak – The current available lumber inventories remain above the demand for most grades and thicknesses. It is difficult for mills in our region to operate without producing this species, causing some concern. Upper grade lumber is moving steady, and some lower grades logs are being pushed to the tie market.

White Oak – the export market is solid for the upper grade lumber, while moving #1 common lumber is difficult in the current market. Because red oak lumber is an acceptable substitute for white oak, and is being shifted as such, red oak is placing additional pressure on white oak.

Poplar – conditions for this species remain favorable, specifically for the #1 common and better material, the bulk of which is shipped overseas, mainly to Asia. Orders and shipments are keeping a steady pace, and prices remain stable.

Black Cherry – demand for cherry continues to be stable, primarily from the flooring and cabinet manufactures. Although the furniture industry consumes large quantities of cherry, its usage has fallen significantly over the recent years. Demand meets supply.

Sugar Maple – Demand for this species remains unmatched by all **HAT** species. The consumer preference for “whitewoods” in home furnishings is the reason for this trend. Cabinet sales for June 2005 were up 16.8 percent over the same time last year.

Black Walnut – The demand for this species outpaces the supply, keeping the market activity hearty. Solid wood flooring and cabinet manufacturers are seeking black walnut. Unlike most other species, black walnut is difficult to mimic, having no reasonable domestic substitute.

Summarized with permission from Hardwood Market Report, Memphis, Tennessee.

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