THE UNIVERSITY of TENNESSEE Extension

Forestry, Wildlife & Fisheries Update Newsletter

Department of Forestry, Wildlife and Fisheries *June 2007*
Dr. Keith Belli, Department Head *Website: http://fwf.ag.utk.edu*

In This Issue

NOTES FROM THE WEB - KEEP SAFE THIS SUMMER!!

http://www.fs.fed.us/safety/wildlife.shtml

The USDA Department of Agriculture Forest Service Website has some excellent recommendations for safety. Many unforeseen dangers present unpredictable challenges when people are visiting or working in unfamiliar surroundings. Topics include: Safe Visits on National Forests and Grasslands, Around Wildlife, Abandoned Mines, Fire Safety, Hazardous Material, Outdoor and Recreation Safety, Tree Safety, Health Safety and Visitor Safety, Hiking Precautions and Camping Precautions.

There are also other links to safety information. Since some of the news lately has been about bears coming into more populated areas, take a look at

http://www.centerforwildlifeinformation.org/BeBearAware

This web site places special emphasis on **keeping bears wild.** You will learn the latest safety techniques for avoiding encounters with bears. This site includes special information on food storage, campsite set-up, viewing and photographing. You will learn precautions to use when hiking in bear country. Keep Safe!!!

WILDLIFE MANAGEMENT CALENDAR FOR JUNE

Habitat Management

Finish planting native warm-season grasses and associated forbs
- plantings through mid-June will do fine with adequate rainfall later in the month
- existing sod should be killed before planting
- use preemergence herbicides (e.g., imazapic) when planting bluestems and indiangrass
- plant seed **no deeper** than ¼ inch
- be patient!
- see *A Landowner's Guide to Native Warm-Season Grasses in the Mid-South*, PB 1746, for specific spraying, planting, and management recommendations

Plant firebreaks and other disked strips not left for natural vegetation
- iron-clay cowpeas, re-seeding soybeans, milo, Egyptian wheat, and various millets provide forage and/or seed for a variety of wildlife species

Plant warm-season food plots
- see *Growing and Managing Successful Food Plots for Wildlife in the Mid-South*, PB 1743, for specific planting recommendations

Plant Japanese/browntop millet around beaver sloughs and other areas that will be flooded in fall for ducks

Bushhog and/or spray perennial forage food plots for weed control if necessary
- see *Growing and Managing Successful Food Plots for Wildlife in the Mid-South*, PB 1743, for specific herbicide recommendations

However, **DO NOT** mow old-fields!
- destroys cover for wildlife at a time it is needed most (nesting and raising young)
- stimulates grass and leads to reduced forb cover (which means less food and cover)
- increases thatch at ground level and makes travel through the field much more difficult for wildlife
- manage old-fields by burning or disking in late March/early April; **don't bushhog**!

Collect soil test samples from plots to be planted this fall and lime now as needed

Establish salt/mineral licks for white-tailed deer
- best if offered in a metal-lined trough that can be cleaned occasionally with bleach/water solution

Spray woody competitors in native warm-season grasses and old-field habitats
- multiflora rose, privet, sericea lespedeza, sweetgum, elms, etc.
- Roundup®, Garlon®, Arsenal®, Ally®, and PastureGard® are good herbicide options

Wildlife Damage/Population Management

Leave young wildlife alone

- let nature takes it's course; you'll do more harm than good by trying to save "orphans"

Do not allow pet cats outside; report all feral cats to the animal shelter for immediate removal

- putting a bell around a cat's neck does not keep it from killing birds and young rabbits and squirrels
- house cats are natural predators as they are not native to North America

Put up chicken-wire fence at least 6 inches belowground and 2 feet aboveground around vegetable gardens to repel rabbits

Put up a 2- or 3-strand electric fence (one strand 6 inches above ground and the other 6 inches higher) to keep groundhogs and raccoons out of vegetable gardens

To repel deer from vegetable gardens, erect a single-strand electric fence (2 ½ feet above ground) with aluminum tabs attached every 3 – 5 feet. Smear peanut butter on the aluminum tabs. Deer are attracted to the peanut butter; however, when they touch the aluminum tabs with their mouths, they learn to stay away.

Plant "alternative" forages (such as iron-clay cowpeas, buckwheat, and clovers) for wildlife on the outside of fencing around a garden to satiate the appetite of deer, groundhogs, and rabbits, further helping to keep them out of the garden.

"Repel" snakes by cleaning up around the house – mow more often, remove piles of wood, brush, and trash. There is no reliable "repellent" for snakes; only "snake oil."

The best way to get rid of moles is by trapping, but you have to set the traps ***correctly***!

Keep crawl spaces and other entrances to houses and buildings closed to prevent young skunks from entering.

Refer to *Managing Nuisance Animals and Associated Damage Around the Home*, PB 1624, for additional wildlife damage management information.

USDA PROGRAM OFFERS HAY & PASTURE RELIEF

Craig Harper, Associate Professor, Wildlife Management

With ongoing dry conditions and a rainfall deficit affecting Tennessee, officials with the USDA Farm Service Agency (FSA) and the USDA Natural Resources Conservation Service (NRCS) want to remind producers enrolled in the Conservation Reserve Program (CRP) that opportunities for managed haying and grazing exist. With a modification to their conservation plan, certain CRP stands established to permanent grasses (cool-season and native warm season grasses), are eligible to be cut for hay or grazed. Most eligible areas for managed haying and grazing are land that was enrolled in a general signup.

Beginning July 2, CRP participants who have received written permission can hay or graze CRP stands. According to Gregg Brann, NRCS Grazing Lands Specialist, "Native grasses will be an excellent source of hay during this drought. Due to deep rooting of natives they will be more vegetative and higher quality than other forages that have dried up. It is important to harvest native grasses as soon as possible after the July 2 date. The ideal height to harvest natives for hay is 30" tall or when the first seedhead appears. My calculations show if CRP yields four tons per acre and half of the hay is given to the contract harvester for cutting, raking, and rolling the hay, the producer would still have four rolls of hay for a cost of only $4.00 per roll.

CRP participants can have the next annual payment reduced by only 25-percent for acres hayed or grazed this summer. Hay harvested under the managed haying option can be sold, offering an attractive financial incentive considering recently reported hay shortages and potential worsening conditions. Haying or grazing is only allowed once every 3 years on the same acreage.

NRCS Private Lands Biologist Mike Hansbrough says, "Most native warm season grass stands have become too thick for many species of wildlife. Removal of this grass with only one cutting will make the stands better for wildlife in the long term." In the case of native warm season grasses, landowners can expect 30 inches or more of re-growth within a couple of months, providing for wildlife cover later this summer and into fall and winter. CRP continuous buffer strips, generally established in more sensitive areas, are not eligible for this haying or grazing option.

For more information, about the Conservation Reserve Program, contact your nearest USDA Service Center listed in the blue pages of your phone directory. Or visit the Natural Resources Conservation Service (NRCS) website at http://www.tn.nrcs.usda.gov/ and look for CRP under Programs or the Farm Services Administration (FSA) website at http://www.fsa.usda.gov and look for CRP under Conservation Programs. CRP is administered by FSA with the NRCS providing technical assistance.

# # #

IMPACTS OF THE EASTER FREEZE ON OAK MAST PRODUCTION

Wayne Clatterbuck, Associate Professor, Forest Management and Silviculture

The below-freezing temperatures in early April have impacted the flowering and thus fruit and seed production of many of our hard mast species, but in particularly oaks, hickories and walnut. The seeds from these species provide a great amount of the food for wildlife during the winter months. The scarcity of seed will also hinder current year regeneration potential of these trees.

The stage of leaf emergence at the time of the freeze made a difference as to which trees were impacted. The combination of the above-average temperatures in March, allowing bud break and flowering to proceed earlier than normal and the severe cold temperatures that followed affected the tissues of leaves and fruiting structures that were just emerging. Those older tissues that had already had been growing for a few weeks were not as affected, as well as those trees that tend to leaf out later. Walnut and hickories were not as damaged because they are among the last tree species to leaf out in the spring. However, the oaks were heavily impacted across the state.

Oaks are composed of two families: red oaks and white oaks. It takes those species in the white oak family (white, chestnut, chinkapin, bur, swamp chestnut, post) one growing season to produce acorns from flowering. Most of these trees will have limited acorn production this year because of the freeze killed most of the flowers. Alternatively, it takes two growing seasons from pollination for red oak (northern red, southern red, cherrybark, Shumard, willow, water, pin, black, scarlet) to produce acorns. Flowers are pollinated in the first year, however, fertilization and maturation of the acorn does not occur until the second year. Thus, there will be little red oak acorn production in 2008 because of the 2007 freeze. The fate of the red oak acorns pollinated in 2006 and will mature in 2007 is unknown. It takes about 12 months (May and June of the second growing season) for the pollen tube containing the pollen to connect with the ovary for fertilization to take place. We do not know at present the impact of the freeze on the fertilization process of red oaks in 2007. Red oak acorns should be visible and growing by the beginning of July if fertilization was successful.

Even if fertilization took place, the stress incurred by the spring freeze and the additional stress of current moisture deficits will cause many acorns to abort. Most areas of Tennessee are in drought conditions with rainfall being 10 or more inches below normal at present. Insects and birds will also consume many acorns. Considering the flowering of most oaks (red and white) was inhibited by the freeze, the uncertainly of red oak acorns pollinated in 2006, the current drought conditions and that an increasing proportion of acorns are consumed by insects when acorn production is limited, it is safe to assume that mast (acorn) production will be limited in 2007 and somewhat limited in 2008. Wildlife populations will probably decrease because of the scarcity of hard mast. Many animals will be searching for food outside their usual habitats in urban areas and in urban-rural interface areas.

Hopefully, variation in the degree of leaf and flower emergence across Tennessee before the freeze will allow some hard mast production. However, it is much too early to predict the fall of 2007 or 2008 mast or acorn crop. Indications are that the mast crop will be limited. The best way for a manager to determine the mast crop for a given year is to conduct a mast survey in late summer and early fall after acorn maturation but before acorn drop.

For more information contact Wayne Clatterbuck at 865.974.7990 or wclatterbuck@utk.edu.

# # #

DROUGHT INFLUENCES ON TREES

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

A tree strives to be in equilibrium with its environment. Any time the tree is not in equilibrium, the tree is stressed and must spend extra energy to survive. Drought has killed and will continue to kill trees. Drought leads to decreased rates of diameter and height growth, poor resistance to other stresses, disruption of food production (photosynthesis) and distribution and changes the timing and rate of physiological processes, like flower and fruit production.

Most of the variation in tree growth is associated with water supply problems. The term "drought" denotes a period without precipitation during which the water content of the soil is reduced to such an extent that trees suffer from lack of water. Water deficits in a tree are formed when transpiration (the process by which leaves emit moisture and oxygen) exceeds the water supply available to the leaf. Trees need a drink of water too!

Droughts are common in southeastern landscapes. Many trees are stressed by prolonged periods of hot, dry weather. Selecting trees that use water efficiently without the need for frequent watering or irrigation is one way to make your landscape more resistant to droughts. With impending water shortages in many urban areas leading to prohibitions of irrigation or water, planting trees that are more tolerant to drought conditions is the best long-term solution to a healthier, low-maintenance landscape.

A few factors to consider when selecting trees that use water efficiently are:

- Native trees are better adapted to local soil, moisture, climate and pest conditions than non-native trees.

- Trees with small leaves (linden, elm, ash, willow oak) are more easily cooled and have better water-use efficiency than trees with larger leaves (sycamore, cottonwood, basswood).

- Upland species are usually more drought-resistant than bottomland species.

- Early successional species, those that colonize old fields and disturbed sites (pines, black locust, elms), use water more effectively than late successional species (sugar maple and beech).

- Trees with deep, upright crowns are more effective in water use than those with flat, wide-spreading crowns.

- Trees with multi-layered crowns having many branches and leaf layers (oak, ash, gum hickory) are more water efficient than those trees with leaf canopies that concentrate leaves in single layers along the outer edge of the crown (beech, sourwood, redbud, magnolia).

- Drought-tolerant plants usually have thick leaf waxes and bark, efficient stomatal control and extensive root systems.

Examples of a few trees that are not drought-tolerant include black cherry, basswood, beech, birch, buckeye, cottonwood, dogwood, sassafras, sugar maple sycamore and yellow-poplar. These species respond to drought by shedding leaves prematurely or wilting.

Although there is not an ideal drought-resistant tree for every landscape, many trees have drought resistant features (small leaf size, degree of leaf wax, crown form) and are more tolerant of dry conditions than others. Refer to the following UT Extension publications for more information on trees with drought-tolerant attributes and information on why trees become stressed and die http://www.utextension.utk.edu/publications/spfiles/sp570.pdf and http://www.utextension.utk.edu/publications/spfiles/SP615.pdf

For more information contact Wayne Clatterbuck at 865.974.7990 or wclatterbuck@utk.edu.

# # #

IT'S FIREWOOD SEASON?

Adam Taylor, Assistant Professor, Wood Products Specialist

It may seem strange to think about firewood just as the weather is getting warmer but now is the time to start preparing your wood supply for the coming winter.

The only kind of wood that won't burn well is wet wood. And all wood starts out wet when it is cut from the tree. Thus, proper seasoning (drying) of all firewood is required in order to have an efficient, clean and safe wood-burning stove or fireplace.

Although some wood species start out drier, and dry more quickly, proper seasoning of any species takes months. Also, wood needs to be cut-to-length and split for proper seasoning to take place. If potential firewood remains in log form, almost no drying will occur. Even if you buy dry firewood from a dealer, it is better to buy it now – often what is sold as 'seasoned' firewood is not as dry as it should be. There is no risk of over-drying your firewood; drier is better. Ideally, firewood piles should be covered and stacked so as to be open to drying winds.

The warm summers in Tennessee ensure that firewood that is cut-to-length and split in the spring will be ready to burn in the fall. To avoid the disappointment and potential dangers of trying to burn wet wood when the first cool days arrive in the fall, prepare your firewood now.

For more information, contact Adam Taylor at AdamTaylor@utk.edu or 865-946-1125

# # #

CAN WOOD SHRINKAGE BE PREVENTED?

Adam Taylor, Assistant Professor, Wood Products Specialist

Wood in a tree is wet. When logs or lumber are cut from trees, the wood dries and shrinks. A further complication is that wood shrinkage is not even, so drying often leads to cracking of the wood, as some parts of the wood try to shrink more than others.

There are only two possible ways to overcome the problems associated with wood drying and shrinkage: allow for shrinkage or prevent shrinkage. Allowing wood shrinkage to occur is the most common, easiest and best solution. Preventing wood shrinkage is possible, but only rarely is it practical.

Making allowances for wood shrinkage: Sawing of lumber from logs, combined with careful drying practices, can result in dried wood that is free of cracks. The wood still shrinks but the drying stresses are prevented from breaking the wood. If the lumber is then protected from water or severe humidity variations, any future swelling and shrinkage of the wood will be small enough to usually not be a problem. Unfortunately, in logs or large pieces of wood that contain the pith (center of the tree), the shrinkage imbalance in the wood will usually cause checking no matter how the wood is dried. This is why the walls in log homes always have checks.

Preventing wood shrinkage: It is possible to prevent the shrinkage of wood by treating it with chemicals. Such 'wood stabilizing' treatments replace the water in the walls of the wood cells. Because these chemicals don't evaporate like water does, the wood doesn't shrink as it dries out. One wood stabilizer is polyethylene glycol (PEG), which is available under different brand names from woodworking supply companies. However, wood stabilization is a relatively expensive and time-consuming process, so it is only practical for small, high-value pieces such as carvings.

Drying and shrink are fundamental material properties of wood. While it may be possible to prevent shrinkage for some specialized applications, the best way to deal with wood shrinkage is cut, dry and use the wood in ways that allow for shrinkage to occur.

For more information, contact Adam Taylor at AdamTaylor@utk.edu or 865-946-1125

COMMON HARDWOOD MANAGEMENT MISTAKES

David Mercker, Extension Specialist I, Forest Management

Sometimes misguided by traditions of the past or the lack of adequate science-based information, forest landowners make mistakes with regard to their forest management. What seems logical at first, once implemented could prove problematic, particularly if such mistakes are repeated through generations. Based on observations made while assisting and advising private forest landowners, there are a number of common errors made repeatedly, that are addressed here:

1. Maintaining a closed canopy through a selection harvest is always good forestry. Single tree selection is one method of harvesting. It has application particularly for those landowners who rank aesthetics and recreation high on their ownership objectives. It can be used in combination to thin younger stands or remove undesirable trees, particularly when overcoming mistakes of the past. However, most hardwood forests if managed for quality timber production, at some point should undergo a heavier stand regenerating harvest (even if only applied in small patches). This allows adequate sunlight to reach the forest floor, stimulating new growth. By not periodically regenerating a forest, the composition and quality will change over time.

2. A stand marked with paint means responsible forestry is being practiced. This depends. Under what parameters were the trees chosen for harvest? If tree size, species, or value were the only considerations, then responsible forest management was likely not practiced. Harvesting only these types of trees will leave a residual stand poor in quality or low in value. Instead, harvest consideration should also be given to include the "D" trees: dwarfed, dying, diseased, damaged, deformed, defective, and undesirables. This is the necessary part of weeding the stand and eliminating unwanted seed sources.

3. The forest soil will take care of itself. Don't be so sure. We tend think of fallen and decomposing leaves and twigs as soil in the making, rather than the organic matter and nutrient recycling they are. True soil is derived from weathering of subsoil rocks, from wind-blown particles that escaped from distant places, or from alluvial sediment deposited after transport via water. All are processes that can take centuries to occur. Stresses that are placed on forest soils during logging are normally restricted to skidding lanes, haul roads, log landing areas, and stream crossings. Concerted effort should be made to protect soil in these areas and thereby assure protection of the water resources. Landowners should understand and follow accepted best management practices (BMP's).

4. Harvest timber only when you need the money. Saving timber as a security to hedge against off-years of other sources of income is not always advisable. Trees are a crop. Though somewhat unique in that they can be retained on the stump for years, doing so could sacrifice considerable production and income. Annual growth rate and return on forest investment peaks, then declines. Harvesting timber crops at or near the peak, then converting those funds to a more favorable alternative investment, is a more prudent decision. Also, it is wise to track timber markets. Waiting to sell timber when other sources of income are lower, may miss the optimum market.

5. This has always been the "assumed" property boundary. Landowners beware! The penalty for timber trespass can reach three times the fair market value. Be certain of property boundaries. Study the deed, reach agreement with your neighbors, and seek assistance from a professional forester or surveyor.
6. Small trees will grow to become big trees - some will, and some won't. If a tree has for too long been suppressed by growing in the understory of larger trees, it will not likely release and grow vigorously once the taller tree(s) are removed. Such trees should be harvested concurrently with the larger ones.
7. Knots on the trunk of a tree will cover up and make fine lumber. This depends. On younger, vigorously growing trees, knots often become concealed and produce quality lumber, particularly if the knots are small-sized. However, large knots or knots formed on slow growing, decadent trees may heal superficially, but never produce clear lumber.
8. I can handle this on my own. – The opportunity to sell timber is infrequent for most landowners, and achieving proficiency is difficult (and usually forgotten between sales). Therefore, it is always advisable to first see a forester, and perhaps several. Not only is a forester's professional expertise needed, but foresters have knowledge of current cost-share programs, laws/regulations/taxes, etc. This expertise can save money, make money, or preserve money.

For more information contact David Mercker at 731.425.4703 or dmercker@utk.edu.

# # #

BEWARE OF CATS AND BACKYARD WILDLIFE

Craig Harper, Associate Professor, Wildlife Management

Early summer is a time of relative abundance for wildlife. Young birds are leaving nests and learning to fly, and young mammals, such as rabbits, are beginning to look for food own their own. If you are interested and/or concerned with wildlife around your house, you should be aware of the detrimental impacts of house cats.

House cats are extremely proficient predators and can severely reduce the number of birds and small mammals around your house. Research has shown house cats (both feral and pets) kill millions of birds and untold numbers of native small mammals each year. (Note that this does not include or consider non-native rats and mice.) In many cases, the prey is not consumed, but only killed because of the cat's innate sense to hunt. If you own a cat and allow it to stay outside, certainly you have seen this many times over as you go out to get the morning paper and find dead birds and rabbits or squirrels the cat has "collected."

It is irresponsible to take the time and effort to develop attractive wildlife habitat and also allow house cats to roam around the area. If you have a cat, the only way to preclude it from having a detrimental impact on wildlife is to keep it indoors. Putting a bell around its neck will **not** keep it from killing birds and small mammals. If you see feral cats in your area, report them to your local animal shelter for immediate capture and removal. Otherwise, you are doing a disservice to native wildlife populations. While predation is most necessary for healthy wildlife communities, please realize house cats (whether pets or feral) are not natural predators because they are not native to North America.

For more information contact: Craig Harper @ 865-974-7992 or charper@utk.edu.

# # #

HARDWOOD ANALYSIS AND TRENDS (HAT) – June 2007

David Mercker, Extension Specialist I, Forest Management

Market conditions for most of the more commonly processed hardwood species have been stable this spring. No price change has occurred for red and white oaks, poplar, and walnut. Not so for black cherry and sugar maple, where demand from secondary processors (furniture, flooring, molding, etc.) is more restricted. Prices for these favored interior woods have suffered, with #1common 4/4 lumber dropping 5.6 percent (black cherry) and 9.6 percent (sugar maple) since April 1.

More positively, starts for new homes have increased steadily for three months. This bodes well for later in 2007. Typically new home construction requires six months. It is toward the end of construction when hardwood products are needed. Housing starts were low in January of this year, reflecting the dampened spring demand. Six months further into 2007 should reveal improvement.

White oak and black walnut continue to shine as species with strong appeal. European customers favor white oak; this coupled with continued use of white oak for truck trailer flooring is keeping supplies thin, and prices firm. Though the "green" black walnut lumber has not changed in value since April, kiln dried prices are sharply higher, evidence of strong orders for "dry" wood ready for processing.

Red oak could be poised for a much needed recovery, though not likely at the same free-falling pace of 2005 and 2006. After experiencing nearly 15 percent decline in a 12 month period beginning April 2005, the price for #1 common 4/4 lumber has gone unchanged in the 12 months succeeding. Many mills have lowered production, holding lumber in storage in anticipation of improved markets. New housing starts should increase demand for red oak, somewhat.

# # #

TAX BILLS

Larry Tankersley, Forest Specialist

Your property tax is calculated by taking the **appraised value** of your property multiplying it by an **"assessment" ratio**, 25% for residential and rural land in Tennessee, and then multiplying the **assessed value** by the local **tax rate**, usually some amount per $100 of assessed value. The trick in understanding the process is the difference between appraised value and assessed value.

Consider an acre that is appraised at $1000. The assessed value would be $250 ($1000 * 0.25). If the local tax rate is $3.00 per $100 of assessed value our tax will be $250/$100 = 2.5. Your tax bill is $7.00 ($3.00 *2.5).

It is important for forest owners in Tennessee to investigate their options for reducing their property taxes by applying for Greenbelt status with their local tax assessor. Most forest land would qualify to be appraised at current use (as a forest) rather than at a highest and best use appraisal.

Contact your local tax office and ask about Greenbelt. Several studies indicate that many eligible people are not taking advantage of this conservation incentive.

For more information contact Larry Tankersley at 865-974-7977 or ltanker1@utk.edu.

# # #