THE UNIVERSITY of TENNESSEE Extension

# Forestry, Wildlife & Fisheries Update Newsletter

*Department of Forestry, Wildlife and Fisheries* *August 2005*
*George Hopper, Department Head* *Website: http://fwf.ag.utk.edu*

## In This Issue



### Notes From the Web - All Things Wildlife in Tennessee - *Armadillo sightings??*

*Samuel Jackson, Web Coordinator*

Where can you go to report an armadillo sighting? What about buying a map of your local wildlife management area? Where can you buy a hunting or fishing license or renew your boat registration? The Tennessee Wildlife Resources Agency (TWRA) website is your internet destination for all things wildlife in the state. Visit http://www.tnwildlife.org to see the site.

The TWRA site is jam packed with all the latest hunting and fishing news as well as information about nongame wildlife. Current hunting and fishing regulations as well as quoata hunt applications can be found on the site. Maps to WMAs across the state are available for purchase also. As the state agency responsible for boating regulations, this website also has you need to know about operating a boat in your local lake or river. TWRA now offers an email newsletter, "TWRA Wild Watch" that users can sign up for on the homepage so you can keep up with all the wildlife related news in the state.

One of the nice features of the TWRA site is the hunting and fishing licenses can be purchased and boat registrations renewed online. Through the license section, hunters can also apply for quota hunts and submit their application online.

The website is a great resource for all those interested in wildlife, fisheries, and boating in Tennessee. Oh and there is a link to report armadillo sightings! Just click on the picture of the armadillo on the homepage!

For more information contact: *Sam Jackson at (865) 974-2946 or* samjackson@utk.edu

## **Wildlife Management Calendar For September (it's a busy month if you're a "wildlifer"!)**

*Craig Harper, Associate Professor, Wildlife Management*

Prepare new cool-season plots for fall planting
- spray existing sod with glyphosate herbicide (e.g., Roundup—2 quarts/acre)
- amend soil according to soil test recommendations
- incorporate (disc or plow) lime and fertilizer into root zone of plot

Plant cool-season food plots
- use pre-emergence herbicides for best results
- see *Growing and Managing Successful Food Plots for Wildlife in the Mid-South*, PB 1743, for additional information on seeding rates and management recommendations

Bushhog and 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 herbicide recommendations

Strip-mow or silage chop dove fields to provide seed and hunting opportunities
- take a kid dove hunting

Top-sow winter wheat on freshly disced ground to attract doves and provide forage for deer, turkeys, and other wildlife through fall and winter

Spray woody competitors in old-field habitats, including fields of native warm-season grasses
- multiflora rose, privet, sericea lespedeza, sweetgum, elms, etc.
- Roundup, Garlon, Arsenal, Ally, and PastureGard should be considered

Burn old-fields to 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 the Bear lied – burning is **much** more wildlife friendly than bushhogging!

Burn old-fields to stimulate forbs and reduce grass dominance where native warm-season grasses have become too dense

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

Prepare fields with tall fescue and orchardgrass to be sprayed this fall
- mow, hay, burn, or graze field to reduce debris on field and stimulate fresh grass growth
- spray tall fescue and orchardgrass (as well as timothy, bluegrass, and bromegrasses) with a glyphosate herbicide (2 quarts/acre) and/or Select (10 – 12 ounces/acre) in late October/early November
- see *A Landowner's Guide to Native Warm-Season Grasses in the Mid-South*, PB 1746, for additional information on eradicating perennial cool-season grasses

Flood fields for migrating blue-winged teal and local wood ducks

Shoot some resident Canada geese!

Construct/repair dikes and water-control structures for flooding fields/woodlands in Nov/Dec

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

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

Begin timber stand improvement work
- 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

# # #

**Help Control Overabundant Canada Geese**

*Craig Harper, Associate Professor, Wildlife Management*

Prevalence of nuisance Canada geese seems to increase each year. These nuisance geese are actually residents; that is, they don't migrate. As a result, they are not exposed to the environmental pressures migratory geese endure and their numbers swell as mortality rates are relatively low.

A most effective technique to reduce the number of resident Canada geese is to harvest them during the specially designed early Canada good hunting season (September 1 – 15 statewide with a daily bag limit of 5 geese). The early goose season is scheduled so that it does not impact migrant goose populations, which will be moving through Tennessee later in the fall. The early goose season overlaps the teal/wood duck season (September 10 – 14) to provide addition opportunity for waterfowlers.

If you are not a hunter, but have property where geese have been problematic, you should allow hunters access. Most hunters are willing to pay for land access; $25 – 100 is not uncommon. This is a much more environmentally friendly practice than allowing the geese to become even more over-populated and cause further problems with other home- and property owners.

This past summer, more than 3,000 Canada geese across Tennessee were fitted with leg bands in an effort to collect harvest data and learn more about localized movements of these birds. Hunters should report band numbers to the US Fish and Wildlife Service by calling toll-free (800) 327-BAND. After providing the band number, date of harvest, and county or area of harvest, a fact sheet and certificate suitable for framing will be sent to the hunter. Leg bands are prizes that can be kept by hunters; they do not have to be sent in to the USFWS.

For more information contact: *Craig Harper at 865-974-7346*
charper@utk.edu

## Trees and New Construction - Give 'Um Room to Grow

*Larry Tankersley, Extension Assistant, Forest Management*

Few things make me smile like the question, "How much room should I give my trees when I build my new house." I smile, because I know I'm dealing with a thoughtful person who is thinking ahead. Generally we get calls a few years after the house is built with the question what is wrong.

The other reason I smile is the rise I get out of people when I tell them to " Give it all the room you can." The drip line is a conspicuous place as we can observe directly the crown radius, i. e. how far we are from the trunk. Depending on the "spread" of the tree, this may not be enough room. Forest grown trees for instance will have fairly narrow crowns with roots that may spread up to 5 or 6 times the drip line. Of course in the case of an open grown oak with a crown radius of 40 - 50 feet, we could assume the drip line encompassed a large percentage of the root system.

I like to consider tree roots concentric zones around the tree. As we move closer to the trunk we cut off roots in the outer rings. Trenching close to a tree can remove a large portion of the root system. A key indicator when digging depending on how deep we are digging, would be the diameter of the roots that we cut. Larger old trees will have several substantial large diameter roots that not only hold the tree up, but are significant conduits of water and nutrition collection beyond our cut.

Removing as little as 10-15% of the root system will elicit a response from the tree within a couple of growing seasons. Expect wilting and possibly the death of several branches in the crown, especially during hot dry weather when the tree can not collect enough water to support the entire crown as it did before the trenching. Supplemental water at this time may not help as the water collection system has been severed from the tree. As the percentage of the root system affected increases, the more response we get from the tree. It should be noted also that some trees will survive removal of up to 70 or 80% of the root system. Trees like sweetgum, blackgum, sourwood, sassafras, post oak, maples, and young trees, will dieback to a point were the remaining root system is adequate to support the reduce crown. The tree will survive and grow from this point. Typically older trees, oaks and hickories will not be as reactive and will likely perish as stored food is burned during the next growing season(s).

When we decide how much room we can give our trees, barriers used to exclude operations near the trunk should be extended outward to protect the root zone. I have seen wood nailed to the tree trunk to prevent the bobcat from bumping the tree, while the concrete truck rinsed in the shade of the tree. Total exclusion of all equipment and construction materials from the root zone will make a difference.

Other ideas for protecting your trees during construction include:

* Prune if you can anticipate the height of equipment and or trucks.
* Limit grade changes and trenching. Consider drilling.
* If the tree is in the shade, anticipate heat stress when exposed. Also consider "new" exposure to wind.

* Landscaping also affects trees. A nice layer of topsoil will really make the grass pretty, but it also smothers the trees that were there first.
* Fertilizer may or may not be necessary but could help rebuild damage tissue or improve the tree's vigor before and after construction.
* Water, Water, Water, for several years as the trees adjust to the new surrounding.

There is lots of information about protecting trees **before** and during construction. Consider once the house is built and the tree has to be removed, the removal cost is considerably greater than if we had cleared the tree before building the house. # # #

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## Bio-Oil

*Adam Taylor, Assistant Professor, Wood Products Management*

Recent rises in oil prices and concern about global climate change have increased interest in renewable sources of energy. One option that has been commercialized recently is the production of "bio-oil" from wood and agricultural waste ("biomass").

Bio-oil is made through a 'fast pyrolysis' process. When wood is heated it breaks down into various flammable gases and charcoal. In a camp fire, oxygen is available and these products burn (combust) to release heat and light. In the fast pyrolysis process, the wood or other biomass is heated but oxygen is excluded – preventing combustion. The vapors are condensed to form the bio-oil.

Bio-oil is a light brown, free-flowing liquid that has roughly the same fuel value as ethanol. As a liquid, it is a convenient fuel that can be pumped, trucked in tankers or stored until needed. It can be used for power generation and heating using traditional equipment with minor modifications. Bio-oil also has a number of environmental advantages: low sulfur oxide and nitrogen oxide emissions and, as a renewable fuel, it is "carbon neutral" terms of global warming potential.

The production of bio-oil is beginning to be commercialized in North America. A company in Canada is building plants that will eventually process 200 tons of wood waste per day. A new business in Alabama is developing a smaller bio-oil reactor that can be brought from sawmill to sawmill on a flat-bed truck. A small scale, portable bio-oil mill might be a good fit for the wood products and agricultural industries in Tennessee, where many operations individually produce relatively small amounts of waste.

Forest and farm industries are a big part of the economy of Tennessee. Bio-oil technology may provide an efficient way to convert the biomass waste from these businesses into a clean, sustainable and valuable fuel byproduct.

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# # #

## Being Firewise in Tennessee

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

The wildland urban interface occurs where homes meet wooded areas and grasslands. As more homes are built in and around woods and fields, the existing fire-fighting resources become stretched and are less able to protect property while trying to control wildlife. The Firewise Program of the Tennessee Division of Forestry seeks to inform homeowners about firewise practices in protecting home and property from wildfire.

The goal of the program is to reduce the susceptibility of homes, communities and structures to wildfire through cooperative education and planning techniques. Homeowners can take proactive steps to reduce their risk of property loss and damage during a wildfire.

Tennessee is not as wildfire prone as western states and even some of the southern states. However, during droughts and especially during windy days in the spring and fall, fires can spread quickly. Dry south slopes and ridges are particularly vulnerable. With more structures being built in the woods, proper precautions should be taken to protect structures and property.

Three major controllable factors contribute to the Firewise safety of a home: structure, site and burning practices. Several inexpensive modifications can be made to structures to reduce fire risk. Cover the underside of decks with latticework and screen to prevent flammable leaves and debris from gathering under the deck. Keep the roof and gutters clean from leaves and debris. Install spark arrestors in chimneys of wood-burning fireplaces.

The critical area to address on your home's site is the 30 feet directly surrounding the home and outbuildings. Within this defensible space, any flammable material needs to be modified or removed. This area should be selectively planted with a few scattered deciduous trees and shrubs and be free of debris such as leaves, yard waste and other combustible material. Ground cover in this area should consist of well-irrigated grass less than 3 inches tall, or another ground covering of low flammability.

One of the leading causes of wildfire in Tennessee is debris that escapes when trash or other debris is being burned. Consider alternatives to burning debris, such as mulching or composting. Follow state burning regulations when deciding to burn. A burning permit is required from the local Tennessee Division of Forestry office from October 15 through May 15.

With some knowledge and effort, wildfire hazards around the home can be recognized and mitigated resulting in a structure and a defensible space that is much more resistant to encroaching wildfire. Decisions that are made before a wildfire event occurs can help avoid damage and heighten safety should a wildfire occur.

For more information about wildfire in Tennessee and the Firewise program, refer to the Tennessee Division of Forestry website at http://www.state.tn.us/agriculture/forestry/fires/index.html

# # #

## Protecting Your Home from Wildfire

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

With many homeowners moving away from the city to more spacious rural settings, the chance of fire destroying homes in these rural-urban interface areas becomes much greater. Fire departments usually take a longer time to respond to such fires because of the greater distances to travel. Water pressure is also reduced in many of these more rural areas. With many homeowners preferring forested settings, wildfire can be devastating to buildings (homes), and property values. We are well aware how rapidly uncontrolled fire can spread. With the late summer, fall fire season (warm, dry and less humid) rapidly approaching, what can you do to be prepared in protecting your home from wildfire?

A few recommendations for fire-conscious homeowners are:

- Flammable materials should be cleared from around the home to create a buffer of at least 30 feet and preferably 50 feet.

- Fire breaks should be provided around your yard to stop the advance of a ground fire. Driveways and masonry walls make good barriers to advancing fires.

- Trees should be cut to a spacing of at least 15 feet and branches should be pruned to a height of 10 feet. More flammable evergreen tree tops should not be within 20 feet of the house and each other to prevent crown fires from spreading to adjacent tree crowns.

- Use fire-resistant roofing materials. Flammable needles, leaves and twigs should be removed from the roof and gutters on a regular basis.

- Know the location of your water resources (water lines, fire hydrants, lakes, ponds, pumps, wells) to obtain water to control a fire.

- Roads should have good access and turnaround space for fire trucks. Sharp turns, locked gates and low-tonnage bridges are detriments to loaded trucks.

Advanced planning and preparation by homeowners will aid in the protection of your home from wildfire.

For more information contact: *Wayne Clatterbuck at 865-974-7346 or* wclatterbuck@utk.edu

# # #

## Does Timber Harvesting Practices Cause Soil Erosion and Pollution of Streams and Lakes?

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

Timber harvesting practices are often accused of generating soil erosion and contributing to water pollution. Often harvested areas are viewed as unattractive and disruptive. These attributes are perceived as causing site degradation. However, research has repeatedly shown that cutting trees does not cause soil erosion, regardless of the cutting practice employed, if best management practices (BMPs) are implemented.

Erosion occurs in areas where leaves and other organic debris, which cover the forest floor, have been pushed back, scraped or incorporated into the soil and where the soil itself has been disturbed or loosened. Areas where the organic litter remains undisturbed are protected from raindrop erosion. The energy of falling rain is absorbed by the litter layer preventing detachment of soil particles.

The greatest potential for erosion in forestry is from activities related to removing the timber from the forest, such as construction of haul roads, log landings and skid trails. Erosion may occur when the protective litter layer is removed and when the soil is loosened during road construction and use. Soil compaction may also occur on log landings and roads, which will prevent infiltration of water into the soil and lead to erosion caused by water running across the soil surface.

Soil erosion and water pollution may be prevented or minimized through the use of best management practices (BMPs). Proper location and construction of logging roads, log decks and skid trails will minimize soil movement. Use of streamside management zones (SMZs) will protect stream channels and banks to ensure that streams and lakes remain free from sediment.

The potential for generating erosion is greater when conducting so-called “selective” or partial cutting than clearcutting since more roads, landings and skid trails are constructed over a larger area in order to cut and remove a given volume of timber. In addition, the cutting cycle is much shorter with selective/partial cutting which requires more frequent re-entry and disturbance of skid trails, landings and roads.

If soil disturbance is minimized and ground cover is maintained during harvesting operations, soil movement and water pollution can be prevented through the conscientious use of forestry BMPs. Consider hiring a Master Logger who has been trained in the use of BMPs and SMZs when harvesting timber.

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# # #

## The Eastern Redcedar Tree Has Its Place

*David Mercker, Extension Specialist I, Forest Management*

As we travel about Tennessee the presence of the Eastern redcedar tree is quite apparent. It's one of the most abundant trees in the state, particularly in the central region, where lies the Nashville Basin and the Highland Rim surrounding it.

Redcedar performs a very interesting role in vegetational succession of a forest. Considered a "pioneer species," it is one of the first trees to invade sites that have been abandoned (such as fields and pastures), or sites that have been cleared for other reasons. The primary mode of seed dispersion is by birds. Coats of consumed seeds are softened within bird gizzards, preparing the seed for germination upon passing. Comically, birds have actually been known to become inebriated by over-consumption of the fermenting fruit.

Eventually, where other seed sources are present, native trees such as oak, hickory, maple, poplar etc. also invade abandoned sites, eventually overtopping the redcedar, causing them to fade. This process is slowed in dense stands of cedar, where adequate sunlight fails to reach the forest floor.

Niche timber markets exist for redcedar, fetching prices comparable to lower grade oak, ash, and poplar. Traditional products for redcedar have included fence posts (the heartwood is resistant to decay), cedar chests (once believed to repel insects), pencils, hamster shavings (no longer recommended), and oils for the perfume industry. The wood is durable, light-weight, close-grained, red, and very fragrant.

As the most widely distributed cone-bearing tree in the eastern U.S., redcedar is a hardy tree, hardly likely to diminish from the landscape. It should be recognized for the importance in restoring worn-out, eroded fields and pastures that served this state well in earlier days.

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## Hardwood Analysis and Trends (HAT)– August 2005

*David Mercker, Extension Specialist I, Forest Management*

With the exception of white oak, hardwood lumber market conditions have not changed considerably since the last **HAT** report. An oversupply of green lumber is common during summer months as mills operate extra hours in order to prevent log inventories from degrading due to "end checking" and staining. The result sometimes leads to excess inventory of lumber for some species. Mills will soon be stockpiling log inventories in order to maintain production during the often wet winter months.

**Red Oak** – red oak lumber of all grades and thicknesses continues to face difficulty; The rapid decline in price for #1common lumber seems to be slowing, although an additional 1.5 percent drop occurred in July; Supply currently exceeds demand; Some consulting foresters are reporting little to no change in the ability to market standing red oak trees at good prices; Typically the pricing pinch is felt at the secondary and primary industry level first.

**White Oak** – The trend for white oak lumber is mixed; Activity for upper grade remains strong, but lower grades suffer with price concessions occurring; #1 common white oak lumber prices dropped five out of the last six weeks, an alarming 7.5 percent reduction.

**Poplar** – demand is solid and business is steady for poplar lumber, however price increases are difficult because the substitutability of other inexpensive species for poplar; Demand for lower grade poplar is softening – a result of less demand for upholstered furniture; Price remains unchanged.

**Black Cherry** – demand and prices remain consistent from previous weeks; Both supply and demand continue strong.

**Sugar Maple** – strong consumer demand for "white woods" for cabinets, flooring, and molding continues to fuel the maple craze; Some in the industry are concerned about the long-term availability of this species to meet the demand and point that the same scenario played out during the 1960's with the Japanese demand for hard maple used in bowling alleys; There has been no price change over the past month.

**Black Walnut** – business is limited, but steady, for this species; Walnut wood is considered "semi-diffuse porous" giving it similar appearance to cherry and maple wood – hence the flooring industry seeks more inventory for walnut as a species to mix-in with these two; The result is a 1.5 percent increase in #1 common lumber since the last **HAT** report.

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

# # #