



FORESTRY, WILDLIFE & FISHERIES UPDATE NEWSLETTER

AUGUST 2010



Thousand Cankers Disease – Survey and Quarantine Underway

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RECENTLY ASKED QUESTIONS . . .

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“Is treated wood safe...for kids/pets/garden beds?”

“Will my cypress tree be harmed if the knees are cut to facilitate lawn mowing?”

THOUSAND CANKERS DISEASE DISCOVERED IN EAST TENNESSEE

- Plans underway to survey and restrict movement of walnut material in Tennessee -

NASHVILLE, Tenn. – The Tennessee Department of Agriculture today announced the discovery of Thousand Cankers Disease (TCD), the first detection of the destructive tree pest east of the Mississippi River. The discovery was made in July by a TDA forester. “The discovery of TCD in Tennessee is unexpected, but we’re prepared to help slow the spread of the infestation and protect our forest resources.” said state Agriculture Commissioner Ken Givens. “We will be working closely with stakeholders to determine the extent of the infestation and to take steps to limit its spread.”

TCD is a progressive disease that kills a tree within two to three years after initial infection. The disease-causing fungus, *Geosmithia*, is transmitted by a small twig beetle. Branches and trunk tissue are killed by repeated infections by the fungus, as the beetles carry the fungus into new bark.

The TCD discovery comes a week after emerald ash borer (EAB) was found. Both TCD and EAB have the potential to cause significant damage to Tennessee forests. It is imperative that citizens work to prevent the spread of both.

In response to the find, TDA plans to issue a quarantine in Knox county prohibiting the movement of firewood and black walnut nursery stock and limiting the movement of black walnut timberland other material that can spread TCD. TDA plant inspectors and foresters will conduct a thorough survey of trees in the areas to assess the extent of the infestation and to see if more quarantines are warranted.

The Tennessee Department of Agriculture Division of Forestry estimates that 1.38 million black walnut trees in Tennessee’s urban areas are potentially at risk from TCD. The risk represents an estimated value loss of \$1.37 billion. There are an estimated 26 million black walnut trees on Tennessee public and private timberland potentially valued as high as \$1.47 billion.

TDA officials urge area residents and visitors to help prevent the spread of TCD and EAB:

- **Don’t transport firewood, even within Tennessee.** Don’t bring firewood along for camping trips. Buy the wood you need from a local source. Don’t bring wood home with you.
- **Don’t buy or move firewood from outside the state.** If someone comes to your door selling firewood, ask them about the source, and don’t buy wood from outside the state.
- **Watch for signs of infestation in your black walnut trees.** If you suspect your black walnut tree could be infested with TCD, visit www.TN.gov/agriculture/tcd for an online symptoms checklist and report form or call TDA’s Regulatory Services Division at 1-800-628-2631.

HOW TO CHOOSE A LOGGER

Wayne K. Clatterbuck, Professor, Forest Management and Silviculture

One of the most important steps in executing a proper timber harvest is to hire a qualified logger. How is this done? It is a four step process: (1) Interview loggers, (2) Get references, (3) Follow up with references, and (4) Visit logging sites of loggers you have interviewed.

What to ask prospective loggers? How long have you been in business? Are you and your employees covered by workers compensation and liability insurance? What type of road and skid trails do you construct and how will they look when the logging job is completed? Ask loggers if they have completed the Tennessee Master Loggers Course and follow Best Management Practices (BMPs)?

Get references. Ask for logger references from previous harvesting operations.

Follow up with references. Discuss with other forest landowners their experience with the logger, particularly: Did the logger fulfill his contractual obligations? Did the logger listen to and act on your concerns? Was the logger careful in leaving your remaining trees and the site in good condition? Would you hire this logger again?

Visit sites that have been logged and are being logged by loggers. At active sites inspect the condition of logging equipment. Note whether the crew is wearing proper protective equipment including hardhats. Inspect the condition of trees that remain. Was care taken in felling not to damage the crowns of remaining trees? Was care taken in skidding not to scar the base of trees? Inspect streams and stream crossings to determine whether the logger adhered to BMPs.

For a list of Tennessee Master Loggers in your area, contact your county Extension office or your local Division of Forestry office.

THE DYNAMICS OF HIGH-GRADING

Wayne K. Clatterbuck, Professor, Forest Management and Silviculture

Concern exists among forest practitioners, owners, industry and the public that high-grading --- the practice of harvesting those trees that will give the highest intermediate economic return --- may lead to a widespread decline in forest resource quality. Two practices, diameter-limit cutting and selective cutting, fall in this category. In diameter-limit cutting, all saleable trees above a certain diameter are harvested. Selective cutting usually removes the largest, most valuable trees and may leave large-diameter, poor-quality, and low-value trees. In each case, most of the trees that remain after the harvest are the inferior, defective trees. Neither method gives any thought to the composition of the future forest.

In most forests in Tennessee, smaller-diameter trees are not necessarily younger trees. Most of these smaller trees are either (1) slow-growing species of the same age as faster growing trees of another species or (2) the same species of the same age, but did not grow as quickly as their larger diameter counterparts due to greater competition between trees.

Because slow-growing and poor-quality trees are retained, high-grading diminishes the diversity and economic value of the future forest. Landowners may agree to high-grading because of a lack of knowledge about the practice and its undesirable consequences. High-grading can also be driven by short-term economic considerations. Immediate cash flow may be higher with high-grading, but potential environmental degradation and decreased future timber values will more than cancel the immediate cash advantage.

Stewardship requires that landowners consider the future consequences of high-grading when making a decision whether or not to accept the use of the practice on their land. Resource professionals and harvesters also have an obligation to look beyond the present when recommending forest management practices to landowners.

UN-EVEN AGED MANAGEMENT: SOUNDS GOOD, BUT CAN IT BE SUSTAINABLY ACCOMPLISHED IN TENNESSEE'S HARDWOOD FOREST?

Wayne K. Clatterbuck, Professor, Forest Management and Silviculture

By definition, an uneven-aged forest contains three or more age classes, with these age classes intermixed among themselves. The selection method of regeneration or sometimes called single-tree selection promotes uneven-age forest structure.

Single-tree selection is best-suited for shade tolerant species that have the ability to regenerate and grow in the shade, such as beech and maple. When the selection regeneration method is applied to stands of intolerant species, composition will shift to more tolerant species such as blackgum, hemlock, hackberry, ironwood, elms, maples and beech. Most of these species are not highly valued for timber production and are not a desirable overstory component of forests in Tennessee.

Fundamental to the selection method is:

1. The progression of trees from one size class to the another
2. New reproduction is achieved after each cutting cycle
3. Cutting occurs in all size classes (density control) for continued development

All three steps must occur following each cutting cycle to maintain an uneven-aged stand or forest.

Do not confuse the selection regeneration method with selective cutting or partial cutting. Selective cutting practices are not directed toward obtaining regeneration and cutting does not occur in all size classes to maintain an uneven-age structure.

The intent of this method of regeneration is to create in a single stand, a self-sustaining forest in which trees of several to many ages and sizes are present and intermingled with each other. The intolerance to shade of most of our commercial species in TN does not permit its use. Also this method is cost prohibitive for most operations because of the precommercial cutting of small diameter trees to ensure uneven-aged structure as well as the low volumes harvested during the frequent cutting cycles are not economically feasible.

HARDWOOD ANALYSIS AND TRENDS – AUGUST 2010

David Mercker, Extension Specialist, Forestry

Like so much of the rest of the economy, **HAT** is in holding pattern. Uncertainty exists over the likelihood of a double-dip recession. Most economists are not predicting that occurrence, rather a very sluggish return to normality, a one to two percent growth for as far as the eye can see . . . and then some. Deflationary pressures are even a possibility.

The primary driver of domestic hardwood markets is housing, specifically new construction units. Although the sales of new single-family homes jumped this summer, results are still well below the norm. Before new construction can see a significant increase, existing homes on the market must drop. Presently there is nearly nine months supply of homes and banks will be continually releasing more.

Picking up the slack in hardwood lumber demand has been a fairly robust export market. During the first portion of 2010, shipments were strong. However, starting in June a slow-down occurred led by the European financial crisis then followed by a pushback from China. The first was somewhat expected; the stalling in China wasn't. Apparently the Chinese government is implementing guidelines designed to avoid a housing bubble such as the US experienced. Chinese consumers appreciate hardwood home furnishings, namely red oak and ash. So even in the export realm, it still comes down to housing.

Where does that leave forest landowners and the industry reliant upon hardwoods? - - in a holding pattern. Markets for hardwood lumber remain strong, but have leveled. Some softening for poplar and maple is occurring, while surprisingly ash, walnut and hickory have seen recent upticks. Likely these three are related more to a lack of supply than a jump in demand. Expect little price change until early winter. **HAT** is not confident in predicting beyond then.

Summarized with permission of the Hardwood Market Report, Memphis, TN.

PRIVATE CITIZENS OWN 85 PERCENT OF TENNESSEE FORESTS

Larry Tankersley, Extension Specialist, Forestry

Private citizens own nearly 85 percent of the forests in Tennessee. This resource provides all Tennesseans and our guests with clean air, clean water, wildlife habitat, storage of carbon to mitigate climate change, recreational opportunities and periodically, timber and wood products that build and heat homes and support Tennessee's large and diverse forest products industry, and provide income to forest owners.

We all share the responsibility to protect and enhance Tennessee's forests, which we hold in trust for future generations. The health of the landscape, the diversity of our woods for wildlife and rare species, our forest's ability to withstand invasive pests and climate changes, your ability to produce forest crops that are important to you, and sustainable timber harvests that support Tennessee's multi-million dollar forest products industry all depend on the personal management decisions you make about your woods. It's a big responsibility not to be taken lightly.

Each forest owner has many different reasons for owning their land and many different goals and objectives for it. With appropriate management or “silviculture” (the science-based tending and regenerating of forest stands to realize property-owner-desired benefits and sustain them over time), owners can maintain their forest indefinitely, while using them today for many different purposes. This is the essence of sustainable forestry. It means keeping forests healthy, productive and available for future generations. This includes monitoring forest health and other conditions, maintaining appropriate numbers, kinds and ages of trees, enhancing the growth vigor of desirable species, and regenerating new trees and forests when the current ones reach maturity or no longer serve your needs and objectives.

Because trees of good form and marketable species have value for a host of products that people depend on for daily living, woodlot owners can often sell excess and mature trees to generate income. These periodic timber harvests and sales can often help meet your short- and long-term needs and objectives if planned and executed with the future in mind. Unfortunately, many forest owners neither use silviculture nor practice sustainable forestry. Instead they rely on an unsustainable cutting practice known as diameter-limit cutting, often called “selective cutting”, which, simplistically, removes large trees and leaves smaller ones. In some cases, only commercially valuable trees are cut. This practice, called high-grading, leaves poor-quality, unhealthy, damaged or trees of low commercial value behind.

Neither diameter-limit cutting nor high-grading tries to improve your remaining woods, which should always be a goal of sustainable forestry. Nor do these practices deliberately regenerate new, desirable trees to replace the ones removed by the cutting, ensuring and improving your future forest. As a result, your next “forest” may have a patchy and irregular mix of open and crowded area, short and poorly-formed trees, or trees of low economic value. This creates undesirable conditions within your forest and reduces the potential for producing consistent amounts of wood products (including firewood or timber) and maintaining diverse wildlife habitats and other forest values. It also may open your woods up to being overrun by undesirable, non-native invasive species. The situation usually worsens when a second or third diameter-limit cut is done in the same stand.

The problem highlights the need and opportunity for better stewardship of Tennessee’s forests following recognized, sustainable forestry principles and the advice of professional foresters. With public benefits at stake, such as clean air, clean water, wildlife habitat and future timber supplies, as well as your personal benefits, some states and localities have implemented government regulations designed to ensure sound forest stewardship and conservation. To date, Tennessee largely relies on education and technical assistance for private landowners to promote sustainable forestry. Professional forestry services and assistance are available from Department of Agriculture foresters as well as private sector foresters such as those participating in the Division of Forestry’s Cooperating Consultant Forester Program.

If you own forest land in Tennessee you play a vital role and share in the responsibility in conserving and sustaining our forest resources. Your management decisions and activities can benefit you personally and all Tennesseans. In particular you should recognize the unintended and undesirable impacts that unsustainable cutting practices such as “diameter limit cutting” and high-grading can have

on your present and future forest, and all the resources, benefits and services they provide. Prior planning, with the help and guidance of a professional forester, will help you get the most out of your forest land, no matter what your goals. If you have any questions don't hesitate to contact us at (865) 974-7977.

(freely adapted from an open letter to New York forest landowners from their State Forester, Robert K. Davies, Jan. 13, 2010)

WOOD – RENEWABLE ENERGY & ENERGY EFFICIENCY PROGRAM

Adam Taylor, Associate Professor, Forest Products

The Renewable Energy and Energy Efficiency Program, through USDA-Rural Development, offers financial assistance to help farmers and small businesses install renewable energy systems. Wood is a renewable energy source and wood burning systems would qualify for this program.

Background information can be found at: <http://www.rurdev.usda.gov/rbs/farbill/>. For further details on the program, and for information on the contact person for specific regions of Tennessee, please contact Adam Taylor at AdamTaylor@utk.edu or 865-946-1125

WILDLIFE MANAGEMENT CALENDAR FOR AUGUST

Craig A. Harper, Professor, Wildlife Management

It's a busy month – if you're a wildlifer!

Wildlife Notes

Blackgum and sumac are turning red—fall is coming!
 Chestnut oak acorns and white oak acorns begin to fall
 White-tailed bucks shed their velvet
 Bobwhites finish nesting
 Juvenile ruffed grouse begin to disperse
 Local mourning doves migrate south later in the month
 Blue-winged teal migrate through Tennessee
 Night migration of passerines (various songbirds) often occurs
 Hummingbirds begin migrating south
 Young black rat snakes have hatched and are emerging
 Monarch butterflies migrate south

Habitat Management

Prepare new cool-season plots for fall planting

- spray existing sod with glyphosate herbicide (such as Roundup—2 quarts/acre)
- amend soil according to soil test recommendations
- incorporate lime and fertilizer into root zone of plot with a disk or chisel plow

Plant cool-season food plots

- refer to *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB 1769, for additional information on seeding rates

Mow and spray perennial forage food plots for weed control if necessary

- refer to *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB 1769, for additional information herbicide recommendations and managing food plots

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

- refer to *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB 1769, for additional information on management strategies for dove fields
- be sure to take a kid dove hunting

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

DO NOT mow old-fields at this time of year if you are interested in wildlife using them!

- destroys cover for wildlife at a time it is needed for 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 and maintain old-fields by burning or disking in late March/early April or September/October; **don't mow them!**

- Refer to *Native Warm-Season Grasses: Identification, Establishment, and Management for Wildlife and Forage Production in the Mid-South*, PB 1752, for additional information on managing early successional habitat

Burn and disk old-fields and other early successional habitat

- will stimulate forb growth next spring, which will provide brooding cover for wild turkeys and bobwhite, and will improve forage availability for white-tailed deer
- will reduce grass dominance where nwsgr have become too dense
- will reduce woody encroachment by sweetgum, elms, and other undesirable woody saplings in the field
- don't be afraid to burn; prepare adequate firebreaks by disking around the perimeter of the field and burn against the wind
- Smokey Bear actually likes for you to burn – it provides him with more food!
- refer to [Chapter 6](#) in *Native Warm-Season Grasses: Identification, Establishment, and Management for Wildlife and Forage Production in the Mid-South*, PB 1752 for additional information on managing early successional habitat for wildlife

Spray undesirable woody plants in early successional habitat

- multiflora rose, privets, sericea lespedeza, sweetgum, green ash, and *Ailanthus* are examples of undesirable woody plants in early successional habitat
- Roundup, Garlon 3-A, Arsenal, Cimarron, and PastureGard should be considered
- refer to [Chapter 6](#) and [Appendix 4](#) in *Native Warm-Season Grasses: Identification, Establishment, and Management for Wildlife and Forage Production in the Mid-South*, PB 1752, for additional information

Plant firebreaks and other disked strips not left for natural vegetation

- annual cool-season grains (especially wheat) along with annual legumes (crimson and arrowleaf clover and Austrian winter peas) are excellent choices
- refer to [A Guide to Successful Wildlife Food Plots](#), PB 1769 for additional information

Prepare fields with tall fescue and orchardgrass to be sprayed this fall

- mow, hay, burn, or graze field now to reduce debris on field and stimulate fresh grass growth
- spray tall fescue and orchardgrass (as well as timothy, bluegrass, and brome grasses) with a glyphosate herbicide (2 quarts/acre) in late October/early November
- see chapter 5 in *Native Warm-Season Grasses: Identification, Establishment, and Management for Wildlife and Forage Production in the Mid-South*, PB 1752, for additional information on eradicating perennial cool-season grasses

Flood fields early in the month for migrating blue-winged teal and local wood ducks

Construct/repair dikes and water-control structures for flooding fields/woods in November/December

Sow winter wheat along edges of flooded fields to provide important forage for migrating Canada geese and American wigeon 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 watching and identifying good acorn producers

- one-third of the oak trees produce roughly 75% of all the acorns
- if you are interested in improving acorn availability in your woods, distinguishing good producers from poor producers will help you identify which trees to favor
- once acorns begin to fall, walk through the woods and mark trees with good acorn crops with aluminum tags or tree marking paint near the bottom of the tree
- continue this for at least 3 years and a pattern will begin to develop identifying those trees that do not ever produce many acorns (even in a good acorn year)
- good producers can be released by killing or removing unwanted adjacent competitors, allowing the crowns of favored trees to expand and produce more acorns

Begin timber stand improvement work

- although it can be hot, Sept and Oct is a great time to kill unwanted trees; herbicides applied via hack-and-squirt or girdle and squirt are readily transported to the root system as trees prepare for winter senescence
- stimulate growth among oaks, beech, blackgum, cherry, persimmon, and other mast producers by killing surrounding competitors
- girdle unwanted trees and spray wound with a 50% mixture of Garlon 3-A and water or a 20% solution of Arsenal AC and water; refer to herbicide labels for efficacy on various tree species

Wildlife Damage/Population Management

Conduct survey for white-tailed deer using infrared-triggered cameras

- one camera per 100 acres
- prebait with trace mineral salt and shelled corn for one week
- after prebait week, continue baiting sites and take pictures for 2 weeks
- refer to *Quality Deer Management: Guidelines for Implementation*, PB 1643, for information on calculating deer density estimates

If bats are in your attic, don't close them up now.

- young are still present
- if you close them up, they will die and produce a terrible odor
- maternal colonies will be leaving for hibernation soon

Help the cause – shoot some resident Canada geese during the September goose season!

Young black rat snakes should not be killed

- they are not venomous
- they are beneficial to have around the house and barn as they kill many rodents
- they are visible at this time of year as they have recently hatched (about 12 inches long)

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



RECENTLY ASKED QUESTIONS

Question: “Is treated wood safe – for pets/kids/garden beds?”

Answer: Adam Taylor, Associate Professor, Forests Products

There is no evidence of any health or safety risks associated with the use of preservative-treated wood products. This is true of the new formulations and the old products that contained arsenic. The only exception could be in the reuse of old railway ties – the chemicals used in those products can be irritating to the skin of sensitive individuals.

Treated wood is like other wood products in that gloves and dust masks should be worn when handling and cutting the material.

Question: “Will my cypress tree be harmed if the knees are cut to facilitate lawn mowing?”

Answer: Wayne K. Clatterbuck, Professor of Silviculture and Forest Management

The function of cypress knees is poorly understood. At one time, cypress knees were thought to assist with aeration of the roots during flooded conditions. However, research has indicated that cypress knees are not important as aerating organs. The knees are the result of local cambial activity that adds layers of wood on the upper surface of roots. Thus, cypress knees are part of the root system, but they do not affect the absorbance and conductance of moisture or nutrients within the tree. Knees can be cut cleanly at or just below the ground surface without harming the tree and is similar to branch pruning.

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