



FORESTRY, WILDLIFE & FISHERIES UPDATE NEWSLETTER

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IN THIS ISSUE . . .

WALNUT TWIG BEETLE FOUND IN VIRGINIA	page 1
WHY DO SOME TREES LOSE THEIR LEAVES IN LATE SUMMER?	page 2
TIMBER BID ETHICS	page 2
HOW MUCH TO HARVEST DEPENDS ON PURPOSE: ARE YOU SUSTAINABLE?	page 3
FOREST HARVESTING AND WATER QUALITY	page 4
ARE YOUR TREES HAZARDS	page 5
SERICEA LESPEDEZA: A QUESTION REGARDING ERADICATION	page 6
WILDLIFE MANAGEMENT CALENDAR FOR SEPTEMBER	page 7

WALNUT TWIG BEETLE FOUND IN VIRGINIA

Adam Taylor, Associate Professor, Forest Products

In July, the Virginia Department of Agriculture and Consumer Services implemented a quarantine on black walnut wood from the City of Richmond and two adjacent counties following the detection of Thousand Cankers Disease (TCD) in that area. In 2010, TCD was found in Knoxville TN – the first time the disease has been observed east of the Mississippi river. The discovery of TCD in Virginia confirms that the disease is already established beyond the borders of Tennessee and heightens concern about its potential to spread throughout the native range of black walnut trees.

TCD is caused by the walnut twig beetle and a fungus it carries. Heavy infestations can eventually kill the host tree. TCD was first observed in New Mexico in the 1990's and has spread to most western States. Since TCD was found in Tennessee, quarantines have been imposed and detection programs have been implemented. Research is also underway to increase our understanding of the disease and to develop treatment options. For example, at the University of Tennessee, trials are underway to test heating and fumigation schedules to eliminate the insect and fungus from walnut logs.

For more information on TCD and the responses, please visit

<http://www.fs.fed.us/foresthealth/fhm/sp/tcd/tcd.shtml>

WHY DO SOME TREES LOSE THEIR LEAVES IN LATE SUMMER?

David Mercker, Extension Specialist, Forestry

Normally every year in late summer, when temperatures aren't fit for much, Extension Specialists and County Agents receive inquiries on why some leaves are prematurely dropping from trees. It always seems to coincide with high late summer temperatures and low precipitation. Annually when mowing our lawn, I notice both our river birch and willow experience this phenomenon. It's been noticed with tulip poplar, sycamore, elm, hackberry and redbud too.

It became a personal challenge to determine what these species have in common. Other than all having yellow autumn color, was there another characteristic that contributes to this situation? With some discovery, surely another more telling similarity exists. And I think I've found it.

A few years ago, Dr. Jennifer Franklin (UT Tree Physiologist) and I developed a publication titled *Tree Growth Characteristics*. In that, readers gain a general understanding of how trees grow. One of the characteristics that we addressed was shoot growth patterns -- specifically that leaves are produced from the shoot (branch tip) either: (1) continuously throughout the growing season, or (2) in discreet growth bursts termed flushes. Trees with continuous growth, normally called *sustained* growth, continue to produce leaves as long as growing conditions are favorable. It seemed fitting then, that such trees might abort leaves when conditions *aren't* favorable. Hmmm. In other words, they "over produce" leaves, then in an effort to conserve limited moisture in harsh, hot times, they rebalance by aborting leaves. Normally the oldest (interior) leaves are the first ones aborted.

When the list of seven species, mentioned above, were compared to our list of species having sustained growth, all of them fit. Trees that most often lose leaves prematurely all have sustained growth. Here's the telling message: if you have one of these seven species and leaves are prematurely falling, it's likely normal. Watering the trees might be beneficial, but not necessary, because, again, this is normal.

I hope these thoughts help answer the perennial question of why some leaves prematurely drop from trees. For a better understanding of this subject and subjects related, see:

<https://utextension.tennessee.edu/publications/Documents/W227.pdf>

TIMBER BID ETHICS

David Mercker, Extension Specialist, Forestry

At many of our Extension Forestry programs we have addressed the advantages of sealed bid timber sales. In most cases, and to maximize income, sealed bidding is preferred over a direct sale. Exceptions exist, particularly when the sale is a pulpwood thinning or the quality of trees offered is so poor that sufficient interest among potential bidders would be lacking.

Rarely have we ever addressed the subject of *bid ethics*, specifically ethics that should be followed during and immediately following a timber bid opening. Sealed bids, as opposed to an auction bid, is the method discussed here. Sealed bids are normally provided in an envelope the day of or in advance of a predetermined sale time. Bids can be taken in person or over the phone/fax/electronic. With the latter three, the reputation of the bidders should be known in advance. Bids should be kept confidential until the time of bid opening. *Tree Farmer* magazine (Reynolds Jan/2005) also suggests the following:

- All bidders should be provided the results of the bids the day of the bid opening;
- Acceptance or refusal of the bids should occur within three days (preferably on day one);
- No additional bids should be received, accepted, negotiated (or even entertained) after the set bid time unless all the bids have first been rejected;
- Normally, the timber is sold to the highest bidder (assuming at least one bid reaches or exceeds the minimal acceptable price as provided by the forester).

Occasionally the offers do not reach the preset minimum acceptable bid. Ethics can become clouded when this occurs, so after rejection of all bids, the minimum acceptable bid is then offered to the highest bidder. If they decline, then the opportunity is extended to the next highest bidder and so-on until a bidder accepts. If this fails, then the seller is able to offer the timber to anyone outside the current set of bidders. This could also mean that the timber is overpriced and a reevaluation is needed.

As a final note, it is not good practice to leverage one bid against another. In other words, peddling offers to see who is willing to pay the most compromises integrity in the process and bidders are likely to do future business elsewhere.

HOW MUCH TO HARVEST DEPENDS ON PURPOSE: ARE YOU SUSTAINABLE?

Wayne Clatterbuck, Professor, Silviculture and Forest Management

Forest landowners have many reasons for harvesting trees: income, wildlife habitat, visual appeal, recreation and other purposes. Generally, trees can be harvested continuously **if** enough valued trees remain after the cut to grow and prosper. That usually means stands are harvested frequently and few trees (low volumes) are cut with each entry. The concept is that more attention is given to the remaining trees than the cut (income) trees so the remaining trees have the resources to continue to grow and increase in value. If the trees remaining do not have the potential to increase in value, then practices should be implemented **to regenerate** the stand rather than culture inferior trees indefinitely.

Unfortunately, due to economics, often all the trees that pay their way out of the woods are harvested and inferior trees remain for the future stand. As a colleague of mine, Larry Tankersley, would submit, **Do Not Cut Yourself Out of Business**. Harvesting without consideration of the future stand often leads to unsustainable practices. Trees that remain are not capable of increasing in value and they occupy growing space not allowing regeneration of desirable species, those that require more sunlight to grow. The choice then becomes letting an undesirable stand continue to grow with little chance of value increase or starting over with a regeneration harvest that will take many years before trees reach a size to conduct a harvest. Both choices are usually financial hardships and lead to many of the degraded stands that occur today. Inferior trees on the site are not valuable enough to entice a logging operation and it will be costly to remove these trees to initiate desirable regeneration. Thus, make sure to consider the future stand when considering a timber harvest. Do not cut yourself out of business!

FOREST HARVEST AND WATER QUALITY

Wayne Clatterbuck, Professor, Silviculture and Forest Management

An article (Volume 23, No. 5 --- July 13, 2011) in the National Council for Air and Stream Improvement (NCASI) expounds on the successful use of Best Management Practices (BMPs) for protection of water resources. The Environmental Protection Agency (EPA) has accepted that BMPs are an effective way to protect water resources in managed forests. However, a recent court ruling by the Ninth Circuit Court of Appeals suggests that logging roads are point sources of water pollution subject to permitting requirements of EPA's Phase 1 stormwater program for industrial activities. Forest activities have been considered as nonpoint sources of pollution previously and were controlled by the use of BMPs. Although this ruling is still being addressed through the legal process, requiring storm water permits for logging road is inconsistent with present EPA regulations and would impose additional costs and legal risks on landowners, loggers and forest-based manufacturing. These higher costs and risks could jeopardize investment in sustainable forest management and encourage land use change from forests to other uses with potential greater impacts on water quality.

A few key facts on forest harvesting activities and their effects on water resources based on 30+ years of research.

- **State silvicultural nonpoint source control programs are highly effective.** Estimates nationwide indicate that state forestry BMPs are applied nearly 90% of the time. BMPs were formulated to protect water quality and aquatic habitats. Research has shown that BMPs reduce water quality impacts (sediment, temperature, dissolved oxygen) by 80 to 90% compared to practices where BMPs are not implemented.
- **Forestlands, including roads, are generally minor sources of sediment** compared to other land use activities. For example, EPA estimates that forestlands produce 1/1000th the erosion observed for construction sites. Many states rank forestry as a minor source of water quality impairment.
- **Even though forests represent one-third of the landbase in the US, they contribute to less than 5% of river and stream miles identified as water quality impaired.** Forestry is not in the top ten categories (of 23 "Probably Sources Group" categories) contributing to impairment of water.
- **Forest Road Practices continue to improve.** The goal of BMPs is to disperse the flow of water onto the forest floor so water can be absorbed in the soil before it reaches a stream. BMP surveys indicate that both use and effectiveness of BMPs in protecting water quality have improved with time.

In Tennessee, we are presently on the 3rd iteration (2011) of a 3-year BMP implementation survey to determine whether BMPs are being applied during forest harvesting operations. In 2005, the forestry BMP implementation percentage was 82%. In 2008, the rate was 89%. For each iteration, 200 logging sites are evaluated statewide for BMP use with emphasis on forest haul roads, skid trails, log landings, streamside management zones and streams crossings. Considering that BMP instruction for loggers is through the Master Logger program in Tennessee, an educational and non-regulatory program (laws on logging are based in the Clean Water Act), BMP implementation rates approaching 90% are a great bargain for the citizens of Tennessee because water and soil are being protected during harvesting operations without a more costly regulatory permitting program.

ARE YOUR TREES HAZARDS?

Larry Tankersley, Extension Associate, Forestry

(This article was inspired and freely adapted from a University of Massachusetts Urban Forestry fact sheet.)

We've had a lot of tree damage this year. High winds and tornados have taken down a lot of trees. Insurance claims, tree removal services, mad neighbors, disappointed tree owners, what should a person think about the trees left standing?

First you should count your blessings that your tree(s) survived the last storm. Next you have to wonder, will they survive the next one and how much damage will they cause if they don't?

Evaluating tree hazards should be an on-going part of tree ownership. Trees change with age and some that were not hazards when they were younger and smaller will grow into or suffer changes that may render them hazardous.

Often trees have obvious cavities. What should we do in this case? Many folks will say "cut it"; others will remind us that "it's such a beautiful tree". Both of these positions might be modified, if we adopt a two goal policy:

- * protect the tree from unnecessary removal and
- * protect people and property from unnecessary harm.

Hazard tree evaluation begins with determining **what will be damaged if the tree falls**. If there is no target, then even the worst looking tree isn't really a hazard unless someone happens to be there when it falls. Then we have to ask, how often are people present? A tree with a large cavity should probably be removed if a continuously occupied house is the target.

What kind of tree is it? Different kinds of trees have different mechanical strengths and decay strategies. Species considered high hazard potential include silver maple, cottonwood and other "hybrid" poplars, willow, basswood, boxelder, black locust and tree-of-heaven.

What is the tree's general condition? Is the crown full and normal looking, well balanced, with good annual shoot growth? A vigorous straight tree is less risky than a hollow leaner in decline.

How extensive is the rot? Trees with cavities are trees with decay. We can sometimes slow the decay but damage done is damage done. A classic method of determining the extent of decay is to "sound" the tree by hitting it with a baseball bat or small hammer and listening for the hollow resonance. We can also probe the cavity with a stick or our hand and arm. Both of these methods will identify large cavities that we can reach. A precise method for determining the extent of internal decay is to use equipment such as a Resistograph®, which passes electrical currents through your tree and "maps" the relative resistance to the current.

Tree cavities that are surrounded by at least one inch of solid wood per six inches of tree diameter are unlikely to fail according to good scientific support. All hollow trees are not automatically hazardous.

Rating your tree's hazard potential is as intimidating as planning your own funeral, we hate to admit that something might go wrong with terrible consequences. The good thing is that there is a fair amount of good information to help you cast a more critical eye on your favorite trees.

A good place to start is UT Extension publication, "*How to Recognize and Prevent Tree Hazards*", at <https://utextension.tennessee.edu/publications/Documents/sp573.pdf>

Also the US Forest Service has a Hazard Tree Web Page at http://www.na.fs.fed.us/fhp/hazard_tree/

Be sure to let us know if we can provide assistance.

SERICA LESPEDEZA: A QUESTION REGARDING ERADICATION

Craig Harper, Professor, Wildlife Management

I received the following question a few days ago in regards to eradication of *Sericea lespedeza*. I welcome all questions and will gladly follow-up as quickly as possible with an answer. Thank you for sharing the questions, as it will help others that may have the same thoughts.

Question:

“ I noticed in the newsletter, wildlife calendar, that you have *Sericea lespedeza* listed among the undesirable plants you recommend be sprayed with herbicide for eradication. Why?”

My observations over many years are that it provides excellent habitat for quail – both in the form of its small nutritious seed and as a tall, stiffed stemmed cover.

Back in the good old days when we had animals on our farm, we kept one field in *sericea* for horse hay. We always let the last flush of growth go to seed and that was the field about which the quail were found in hunting season. Back when there were quail! I appreciate your response.”

Answer:

Thanks for asking. *Sericea* is listed as a plant to eradicate for a couple of reasons. First, it is terribly invasive, quickly spreading into areas where it out competes more desirable plants. Once in a field, it is difficult to get rid of because there are no herbicides that can be used to kill it without killing desirable legumes, such as slender *lespedeza*, hairy *lespedeza*, creeping *lespedeza*, the various species of beggar’s-lice, and partridge pea. The invasiveness of *sericea* is amplified when a field is burned. Fire scarifies the seed and stimulates germination.

The food value of *sericea* is near zero. Yes, quail eat *sericea* seed, but the seed is so hard, it is not digested in the birds’ gizzards. Instead, the seed is only scarified, and when passed, has a higher germination rate. Otherwise, it can lay dormant in the seedbank literally for decades until conditions are right for it to germinate, such as after a field is burned. Not only do quail not get any nutritional value from *sericea*, it can be nutritionally harmful because as the birds eat the seed, they are satiated; that is, they think they are full, but they are not gaining nutrition. As a forage, it is considered low-preference for deer, rabbits, groundhogs and others, especially once it grows beyond a few inches tall. The nutritional value as a forage is decent when very young, but *sericea* quickly becomes unpalatable and relatively indigestible as lignin and tannin concentrations increase as the plant matures.

The cover value of *sericea* is not bad in the summer. There is often a relatively open structure at ground level and there is a fair amount of overhead protection. Cover value in winter, however, is zero. This is worsened as the birds go into a *sericea* patch to feed during winter. There is no overhead cover, the birds are eating seed that has no nutritional value, and they are more susceptible to predation while feeding in such an area.

Sericea lespedeza was promoted strongly by many wildlife and forestry agencies through the early to mid-1900’s. It was thought it was a good wildlife cover plant and, indeed, it grows just about anywhere and helps prevent erosion. However, we have since found that its benefits are limited, that it is terribly invasive, and that it displaces more valuable plants, including native plants that can be used for wildlife cover/food and for erosion control. As a result, I strongly recommend landowners interested in quail and other wildlife to eradicate *sericea lespedeza* in their fields.

I hope this is helpful. If you have more questions, feel free to send them.

WILDLIFE MANAGEMENT CALENDAR FOR SEPTEMBER “IT’S A BUSY MONTH IF YOU’RE A “WILDLIFER”!

Craig Harper, Professor, Wildlife Management

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 TN
 Broad-winged hawk migration peaks in TN
 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 per acre)
- amend soil according to soil test recommendations
- incorporate lime and fertilizer into root zone of plot

Plant cool-season food plots

- refer to *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB1769, for additional planting information

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*, PB1769, for additional information on herbicide recommendations and managing food plots

Spray undesirable woody plants in early successional habitat

- multiflora rose, privets, sericea lespedeza, sweetgum, green ash, and *Alanthus* 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

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

- refer to *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB1769, for additional information on management strategies for dove fields
- be sure to take a kid dove hunting

Top-sow winter wheat on freshly disked seedbed to attract doves and provide forage for deer, wild 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 bobwhites, 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) are excellent choices
- refer to *A Guide to Successful Wildlife Food Plots*, PB 1769 for additional planting 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 bromegrasses) 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 cold 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

- 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 10% 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
- optimally, camera "stations" should be established in April with trace mineral salt; deer become accustomed to visiting the site through the summer
- to conduct survey, set-up cameras, bait with shelled corn 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

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