



# Forestry, Wildlife & Fisheries Update Newsletter

Department of Forestry, Wildlife and Fisheries  
George Hopper, Department Head

August 2004

Website: <http://fwf.ag.utk.edu>

## Calendar of Events

- Aug. 25-26** Appalachian Cooperative Grouse Research Project Regional Workshop  
Shepardstown, W. VA,  
Contact: Craig Harper
- Sept 8** Forestry Association Field Day  
Maury/Lawrence/Giles Counties
- Sept 11** Forestry Association Field Day  
McNairy County
- Sept 18** Forestry Association Field Day  
Henry County
- Sept 23** Forestry Association Meeting  
Morgan County (Forest\*A\*Syst)
- Oct 2-6** Society of American Foresters  
Annual Mtg. Alberta, Canada
- Oct 5** Forestry Association Meeting  
Benton County (Forest\*A\*Syst)
- Oct. 22-23** 40<sup>th</sup> Anniversary Celebration  
Forestry, Wildlife & Fisheries
- Oct 26** Timber Tax Workshop  
Cedar Bluff Holiday Inn, Knoxville
- Oct 26** Forestry Assoc. Organizational Dinner  
Marion County
- Oct 27** Timber Tax Workshop  
Ellington Ag. Center, Nashville
- Oct 28** Forestry Association Meeting  
Montgomery County (Forest\*A\*Syst)
- Oct 28** Timber Tax Workshop  
West TN Experiment Station, Jackson
- Nov 1** Forestry Association Meeting  
Maury/Lawrence/Giles County  
(Forest\*A\*Syst)
- Nov 4** Forestry Ass. Organizational Dinner  
Sequatchie County

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## Notes From the Web

*Samuel Jackson, Web Coordinator, (865) 974-2946*

### **Planting Native Trees and Shrubs**

Many times, landowners want to plant native trees and shrubs on their property for a variety of reasons. Some may plant them to prevent the establishment of invasive and exotic plants, while others like the natural beauty of our native vegetation. There is some help available on the web. This month, our website focus will be on a website provided by the Tennessee Valley Authority that provides landowners with a tool to help select the kinds of native plants to plant on their property. The TVA Native Plant Selector for the Tennessee River Valley is found at <http://www.tva.com/river/landandshore/stabilization/plantsearch.htm>.

The site provides reference tools for finding plants by common name and scientific name. There are also resources on attracting wildlife with plantings, landscaping with native plants, and where to purchase these plants. However, the best feature of this website is the tool that allows landowners to enter about the type of plant they are looking for, where in Tennessee their property is, soil conditions, light conditions, and any other pertinent information. Once this information has been entered, the system generates a listing of plants suitable to the site conditions described. This detailed plant search helps landowners see what options they have in terms of native vegetation.

This website provides an easy-to-use tool for landowners who wish to landscape with native vegetation. It's a valuable tool to identify the right plants for the right property.

For more information contact: Sam Jackson, Web Coordinator at (865) 974-2946

## Management Calendar for June - July

### Wildlife

Prepare new cool-season plots for fall planting

- spray existing sod with glyphosate herbicide (e.g., Roundup—2 quarts per acre)
- amend soil according to soil test recommendations
- incorporate (disc or plow) soil lime and fertilizer into root zone of plot
- see *Growing and Managing Successful Food Plots for Wildlife in the Mid-South*, PB 1743, for additional information, seeding rates, and management recommendations

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

Spray woody competitors in oldfield habitats, including native warm-season grasses

- multiflora rose privet, sericea lespedeza, sweetgum, elms, etc.
- Roundup, Garlon, Arsenal, Ally, and PastureGard should be considered

Begin strip-mowing dove fields

Top-sow winter wheat (late August) to attract doves and provide forage for deer, turkeys, and other wildlife through fall and winter

Burn oldfields to stimulate forbs and reduce grass dominance (late August)

Plant firebreaks (late August) and other disced strips not left for natural vegetation  
annual cool-season grains (e.g., wheat and oats) along with annual legumes  
and arrowleaf clover and Austrian winter peas) are excellent choices

### Fisheries

WEBSITE: [www.utextension.utk.edu/aquafish](http://www.utextension.utk.edu/aquafish)

Information on:

Farm Ponds  
General Aquaculture  
Prawns/Shrimp  
Fish Culture  
Water Gardens  
Publications  
List of Best Management Practices  
Workshop Education Information  
Links to Related Sites

**More Help for Bobwhites is On The Way!**

*Craig A. Harper, Associate Professor, Wildlife Management*

Just this week, President Bush announced a directive to sustain the environmental benefits of the Conservation Reserve Program (CRP) by offering early re-enrollments and contract extensions for acres that begin expiring in 2007, underscoring a commitment to full enrollment of CRP up to 39.2 million acres. **This is great news for landowners interested in bobwhite quail conservation.**

The CRP Northern Bobwhite Quail Habitat Initiative introduced a conservation practice (CP33 – Bobwhite Buffers) intended to create 250,000 acres of native warm-season grass buffers along agricultural field borders. USDA has estimated this will increase bobwhite quail numbers by 750,000 birds annually in the South and Midwest. Of course, other species, such as grassland songbirds, rabbits, and wild turkeys will benefit as well. These field borders will provide many other benefits in addition to wildlife habitat. Water runoff, erosion, and sedimentation will be reduced significantly, improving our soil and water resources.

General sign up for CRP will begin October 1, 2004. Through CRP CP-33, participants voluntarily remove environmentally sensitive land from agricultural production by entering into 10- or 15-year contracts. In exchange, participants receive a bonus payment just for signing up, a 50 percent cost-share reimbursement for establishment costs, a practice incentive payment (an additional 40 percent cost-share for establishment costs), as well as annual rental payments! You cannot beat this deal if you are a landowner interested in conserving wildlife and other natural resources. This practice will have statewide cropland application and is **not** restricted to highly erodible soils. Tennessee has an allotment of 9,300 acres (which averages to 1,033 miles of buffers with an average buffer width of 75 feet). If this goal is quickly reached, additional acreage may be made available before the end of the current Farm Bill.

If you are interested in this program, contact your local USDA Natural Resources Conservation office or USDA Farm Services Agency office. Offers accepted under this sign-up will become effective October 1, 2005 or October 1, 2006, at the landowner's discretion.

For more information contact: *Craig Harper at 865-974-7346*  
[charper@utk.edu](mailto:charper@utk.edu)

###

**Timber Tax Workshop**

*Larry Tankersley, Extension Specialist, Forest Management*

The workshops will be from 8:00 a.m. - 4:30 p.m. There is a \$125 registration fee which includes breaks, lunch and instructional materials. Pre-register by contacting Larry Tankersley in Knoxville at (865) 974-7977 or Candace Dinwiddie at the TN Forestry Association in Nashville at (615) 883-3831.

The workshops are on the following dates and locations:

October 26, Holiday Inn at Cedar Bluff and I-40, in Knoxville

October 27 Jones Auditorium, at the Ellington Ag Center in Nashville

October 28, West Tennessee Experiment Station in Jackson.

Please spread the word. This is a good opportunity for a comprehensive coverage of the subject. We look forward to hearing from you!

For more information contact: *Larry Tankersley at 865-974-7346*  
[latankersley@utk.edu](mailto:latankersley@utk.edu)

###

### **Order Seedlings Now**

*Larry Tankersley, Extension Specialist, Forest Management*

The Department of Agriculture Division of Forestry is taking orders now for seedlings to be used for reforestation projects. Pine seedlings and an array of hardwood species are available. Go to this website - <http://www.state.tn.us/agriculture/forestry/>. Scroll down through the left sidebar to click on "Obtaining Seedlings". This will bring up an application form on your screen. All orders must be received by the 15<sup>th</sup> of the month prior to the month selected for delivery. The East Tennessee Nursery is located in Delano, TN. Phone: 423-263-1626 or E-mail [nursery@state.tn.us](mailto:nursery@state.tn.us) for more information. Order now so you will be assured of receiving your stock request. The requests are so many that stock supplies will not be available if you wait too long to put in your request.

For more information contact: *Larry Tankersley at 865-974-7346*  
[latankersley@utk.edu](mailto:latankersley@utk.edu)

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### **Master Wildlifer Set For 2005**

*Larry Tankersley, Extension Specialist, Forest Management*

Our friends at Clemson are moving ahead with plans to produce the live shortcourse from their studios in South Carolina. If you have the capacity to "pick-up" a live satellite feed, you should consider getting a group together and viewing these seminars. The short course is seven (7) nights over seven weeks in February and March. Managing wildlife will be thoroughly discussed during the 21 hours of viewing time. Experts from around the south are the instructors.

Let me know if I can provide you additional details about this program. I am prepared to coordinate any sites that we can support here in Tennessee. There is a modest fee returned to Clemson for the studio and educational materials.

For more information contact: *Larry Tankersley at 865-974-7346*  
[latankersley@utk.edu](mailto:latankersley@utk.edu)

**Videos Available**

*Larry Tankersley, Extension Specialist, Forest Management*

Don't forget that we have videos from previous presentations of both the Master Tree Farmer and Master Wildlifer that could be used at your convenience. Several agents have used the videos for individual meetings or a series of meetings.

If we have these videos it means they are not being used. Please contact us today!

For more information contact: *Larry Tankersley at 865-974-7346*  
[latankersley@utk.edu](mailto:latankersley@utk.edu)

###

**TFA “County Agent of The Year” Award**

*Larry Tankersley, Extension Specialist, Forest Management*

Dean Northcutt, Extension leader in Coffee County won the Tennessee Forestry Association's County Agent of the Year, for his outstanding contributions in teaching forestry. Dean has most recently been involved in coaching Coffee County's 4-H Forestry team. The team just returned from the National 4-H Forestry Invitational contest where they placed third out of 17 teams. In accepting this award Dean pointed out that,

*“... the young people represented in our 4-H forestry program are the sons and daughters of Tennessee, . . . our 4-H forestry program is one of the few places where these folks can access information about their trees and forests.”*

Special thanks to Dean, his staff and volunteers!

For more information contact: *Larry Tankersley at 865-974-7346*  
[latankersley@utk.edu](mailto:latankersley@utk.edu)

###

**TFA “Forestry Association of The Year” Award**

*Larry Tankersley, Extension Specialist, Forest Management*

Also at the TFA meeting was Ricky Matheny from McNairy Co. Ricky represented the McNairy County Forest Landowner Association which was presented with the “Forestry Association of The Year Award”. This award was presented for outstanding work by a county forestry association on behalf of the forests in their county.

For more information contact: *Larry Tankersley at 865-974-7346*  
[latankersley@utk.edu](mailto:latankersley@utk.edu)

###

## **What is Biological Diversity (Biodiversity)?**

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

The term “biodiversity” has become one of the largest buzz-words in environmental discussion. What is the definition of biodiversity, how is it measured and what does it mean in landscape management? Once there is a common understanding of the term, biodiversity can become a part of management planning.

As defined by the US Office of Technology Assessment (1987), biodiversity is the variety and variability among living organisms and the ecological complexes in which they occur. Biodiversity is organized at three principal levels: genetic, species and landscape.

**Genetic diversity** is an indicator of the degree of variation in the genetic or DNA make-up of individuals within a species. Genetic diversity is not something you can measure by walking into a forest. While the concept is based on differences in DNA, in practice, it is nearly impossible to determine the full range of these differences for every species in a particular ecosystem. Thus, generalities and comparative measures of genetic diversity are used rather than specific measures of genetic differences.

**Landscape diversity** refers to the variety of distinct ecosystems within a given landscape or geographic area. Some landscapes are very uniform such as the boreal forest. Other landscapes, such as the mixed mesophytic forest, are more varied with a mosaic of different plant associations in close proximity. A more diverse landscape usually supports higher species richness across that landscape. Landscape diversity is generally measured in comparative terms rather than numerically. There is no logical way to give an exact measure of the number of distinct ecosystems in a given landscape, or to even define “landscape” or “ecosystem” with precision, even though we should appreciate the varied communities that occur in these areas.

**Species diversity** is the category of diversity that most people associate with biodiversity. It is simply an expression of species richness, e.g., a count of the number of species present within an area. While counting the larger species of plants and animals is a fairly easy task, counting the all the smaller and microscopic forms of insects, fungi and bacteria is a more daunting task. Designating some scale is necessary in determining the level of species diversity.

Three terms are used for measuring biodiversity over spatial scales: alpha, beta and gamma diversity. **Alpha diversity** refers to the number of species or species richness in a particular area. **Beta diversity** is examining the change in species diversity between different ecosystems. Beta diversity is usually measured by a similarity index, such as the Sorenson index, where an index of 1.0 would indicate areas identical in terms of species composition.

$$\text{Sorenson Index (Beta Diversity)} = \frac{2 (\# \text{ of species common to areas A and B})}{(\# \text{ of species in area A}) + (\# \text{ of species in area B})}$$

**Gamma diversity** is a measure of overall diversity for different ecosystems within a region or geographic-scale species diversity.

All levels of diversity are subject to temporal variation. Following a forest disturbance, whether natural or anthropogenic, the forest will pass through a series of successional stages. As it progresses through the stages, there is a shift in species diversity. The most dramatic shift occurs shortly after the disturbance. Diversity increases during the stand initiation stage as early successional species colonize the site. When canopy closure occurs, most of the pioneer species d

disappear causing a decrease in diversity during the stem exclusion stage. Species diversity will gradually increase again as the forest moves into the later successional stages.

Since all species grow and reproduce under a limited range of ecological conditions, the diversity of vegetation will vary with site quality. Generally, species diversity is greatest on moist, higher productivity sites than those on water deficient, poor nutrient level sites. A more productive microsite offers more habitats and greater opportunities for species with different niche requirements to co-exist, thus increasing species richness (alpha diversity). Trends in species richness are usually lower in immature stands (stem exclusion stage) when compared to more mature stands (beta diversity or stand to stand diversity). Increased structural complexity is a natural consequence of aging.

In evaluating the different scales of biodiversity interpretation across the United States, it is most interesting to note that environments and temporal scales are not similar enough to make broad nationwide generalizations about biodiversity. The old growth forests in the western US have high diversity values, but when compared to the mixed mesophytic forest or bottomland hardwood forests in the east, there are many more species in eastern forests at all stages of development. The different species with different growth rates, light tolerances and reproductive mechanisms coupled with the varied disturbances in these forests provide a mosaic where these forests are much more species rich and structurally diverse at a younger age than many old growth forests. The old growth forests have claimed the biodiversity spotlight, however the mixed mesophytic forest and bottomland hardwood forests may be just as if not more diverse.

So what can be done to conserve forest diversity during forest management activities? A few simple recommendations would be to maintain mixed species stands, make harvest sizes irregular without sharp angles or straight edges, retain a few snags or groups/clumps of trees, maintain an irregular canopy cover, retain some coarse woody debris on the site and if possible, lengthen tree harvest cycles.

Biodiversity is a catch-all term that reflects the goodness of nature to many people and is being used as a value consideration in the management of forested landscapes. To my knowledge, species richness has not diminished due to forestry activities in Tennessee. Every time some organism dies, there is a “loss” and every time one is born there is a “gain”. Some people seem fixated on the loss side of the equation, predicting collapse or destruction of ecosystem values. However, new opportunities occur in the forest everyday. Observe the new life in the dynamic forest.

For more information contact: *Wayne Clatterbuck at 865-974-7346 or*  
[wclatterbuck@utk.edu](mailto:wclatterbuck@utk.edu)

### **Tree Responses to Disturbances**

*David Mercker, Extension Assistant, Forest Management*

Trees are regularly exposed to disturbances. Some disturbances are minor, where recovery is rapid and often without lasting affect. Other disturbances are much more severe, leaving scars as evidence, and sometimes resulting in mortality. The response to disturbances varies according to characteristics of the species, vigor at the time of the disturbance, and treatment following the disturbance. Oliver and Larson, in *Forest Stand Dynamics* (1996), outline a number of disturbances and tree’s typical response to those disturbances. Some are summarized here:



1. **Scars** – Scars occur when trunk and stem cambium is killed from various sources such as fire, equipment, falling trees, mammals, and insects. Scars often lead to partial rot. Healthy trees will compartmentalize (or surround and grow over) the rot. Such spots can become weak and are later susceptible to stem breakage.
2. **Burying Roots** – In most cases, only a few inches of additional topsoil added over existing roots will suffocate trees and kill them. This is a common problem in construction settings. Some species (populus and willows) can survive by developing adventitious roots (roots that develop unusually).
3. **Sun Scald** – trees previously in shade, then suddenly exposed to direct sunlight, can experience sun scald on the bark. This phenomena occurs because the temperature on the bark surface is hotter than the surrounding air, thus killing living cambium cells. Scald leaves scars on the sunny-side of the tree. A tree responds to scald as it would to scars formed by other means.
4. **Freezing Damage** – also called “frost cracks,” occurs following sunny winter days when daytime temperatures are abnormally warm, followed by a rapid drop in nighttime temperatures. During the day, water is “pumped” up the tree xylem, then freezes at night, splitting the tree bole with a vertical scar. Such splits are audible with a loud “pop” and are subject to future reopening.
5. **Crown Breakage** – wind and ice often burst tree tops. Survivability following this disturbance is a function of three things: the extent of crown loss (40% or more is critical), season of breakage (damage during the growing season is worse because carbohydrate consumption is high while carbohydrate production has been significantly reduced due to crown loss – resulting in carbohydrate drain), and post-damage care.

Trees inherently are exposed to various disturbances. In forest settings, proper management will keep trees healthy, making them more likely to endure the damage that results from such disturbances. Proper management includes managing for hardy, native species, and maintaining healthy growth through periodic thinning. A final word regarding trees in yard settings: it is not recommended to apply wound dressing. In most cases, doing so hinders the natural healing process of compartmentalizing the wound. Instead, the best prescription is stimulating new growth by watering, fertilizing, and aerating.

For more information contact: *David Mercker at 713-425-4703*  
[dcmercker@utk.edu](mailto:dcmercker@utk.edu)

###

### **Silviculture, Forest Management and Exploitation**

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

Recent studies have indicated that many people associate the process of forest management with the arbitrary cutting of trees. Although harvesting trees is certainly part of forest management, the implication that forest management is just the cutting of trees is disturbing. Silviculture practice is used in forest management to achieve specific objectives. Let's examine what is considered silviculture or the care (culture) of trees and forest exploitation.



The Society of American Foresters defines silviculture as:

- the *art* of producing and tending forest stands by applying *scientifically* acquired knowledge to control forest establishment, composition, growth, health and quality
- applying different treatments to make forests more productive or more useful to a landowner and society on a *sustainable* basis
- integrating *biologic and economic* concepts to devise and carry out treatments most appropriate in *satisfying the objectives of an owner*.

Thus within the planned management of forests, the concepts of sustainability; productivity; controlling forest establishment, composition and growth; landowner objectives and economics are all fundamental to the principles and practice of silviculture. Trees and forests develop in a relatively predictable manner. Forest harvesting can be part of this management process, but in a manner that provides environmental benefits as well as benefits to the owner and society.

By contrast, exploitive harvesting (high-grading or indiscriminate selective cutting) gives landowners no assurance of anything except a short-term payoff. As cited by Nyland (2002), exploitive harvesting:

- does not move forest communities toward a controlled age or size class distribution that ensures long-term sustained yields at predictable levels or intervals
- does not ensure adequate regeneration (establishment), either in numbers, species composition, or by arrangement across a site
- ignores silvical requirements of component and desired species with respect to regeneration and long-term growth and development, and the importance of maintaining any specific ecological condition
- removes many sound and vigorous trees with an excellent potential for good volume and value growth
- leaves many defective and unhealthy trees, thereby degrading the health, biologic diversity and economic potential of a stand
- degrades the forest

These exploitive measures violate the sense of conservation (wise use) of forest resources and should have no place in forest ownership and use. Forests should be managed and planned to yield ecological and human-derived benefits in a sustainable manner without forest or site degradation.

*Source: Nyland, R.D. 2002. Silviculture Concepts and Applications. McGraw-Hill, 2<sup>nd</sup> Edition, New York. 682 p.*

For more information contact: [Wayne Clatterbuck at 865-974-7346 or wclatterbuck@utk.edu](mailto:Wayne.Clatterbuck@utk.edu)

###

## **Aerial Application of Herbicides Are More Positive Than Negative**

*Larry Tankersley, Extension Specialist, Forest Management*

Of late we have had a number concerns voiced about aerial applications of “chemicals” on forests. These concerns stem from a few high profile cases where there were problems. While we share concern about these problems, (n one should suffer the indignity of being rained on by some unidentified chemical) we should recognize, however, that aerial applications occur regularly with no problems to report, only satisfied persons.

Advances in chemistry and application technology continue to make herbicides the environmentally friendly alternative for forest site preparation and other weed control projects over a large area. Bulldozers and other mechanical equipment burn fossil fuels, compact and/or expose soil, relocate nutrients and organic matter, and often take more time and money to accomplish the same objective.

A few misconceptions seem to be common in the discussions. First, to my knowledge, all of the products labeled for aerial application to forests require a helicopter. Applications of herbicides must be according to the label, there should be little or no applications for forestry purposes using fixed wing aircraft.

Fixed wing applications to forests are more likely to be fertilizer, which is being used more these days to enhance forest productivity much the same as we use fertilizers in our gardens.

Applicators are heavily invested and obligated to an array of registration and licencing and continuing education requirements. These folks are professionals with no incentive to misuse the tools of their livelihood.

If we can ever explain these topics, please contact us.

For more information contact: *Larry Tankersley at 865-974-7346*  
[latankersley@utk.edu](mailto:latankersley@utk.edu)

###

## **New Publication**

*Larry Tankersley, Extension Specialist, Forest Management*

Has every one seen David Mercker’s new publication on “Veneer”? It is a great discussion of what veneer is, how to recognize a veneer tree and tips on how to grow. Great marketing tool. You can view this publication by going to our website <http://www.utextension.utk.edu/publications/forestry/> and scroll down to Timber and Wood Products and click on Quality Hardwood Veneer (PB1744).

###

### **Selling Your Veneer Trees (Part 7 in a Series of 7)**

*David Mercker, Extension Assistant, Forest Management*

Before selling any trees, seek the assistance of an experienced professional forester. Do not select and sell *only* the best trees from your forest while leaving the undesirables. Doing so is “high-grading” or removing the most valuable, highly desired trees, while the undesirables are left to reseed and perpetuate the future stand. This is not good forestry.

Instead, select trees for harvest based on their financial maturity. This might include veneer trees that have matured, but should also include smaller, inferior trees or those undesirable species whose crowns are competing with future veneer trees. In other words, manage your forest with a constant goal of improvement, leaving species and trees with good potential following the harvest.

Trees for harvest should be marked with paint, measured to estimate volume, and appraised to arrive at a fair market value. A separate listing of your veneer trees should be kept. With proper marketing, your trees can be exposed to all potential regional markets, bids are accepted and the contract awarded. For a list of professional foresters serving your area, contact your local University Extension Office or State Forester.

Pricing your veneer trees can be very difficult and is often based more on seller’s experience, knowledge of the markets, and “whatever the market will bear.” Published reports of veneer prices are virtually non-existent, sporadic in reporting, and difficult to interpret.

The mistake of not correctly identifying a veneer tree can be costly. Consider a white oak tree with a 12 foot butt log that measures 20 inches in diameter inside the bark at the small end of the log, containing 192 board feet (Doyle Scale). The log will have substantially different value, depending on the grade and the market for which it is sold. An estimate of the log value, by grade, is summarized on Table 1.

Table 1. Estimated Value of White Oak Log Based on Grade

<u>Grade</u>	<u>Price/Board Foot*</u>	<u>Value</u>
Prime veneer	\$2.00	\$383
Select veneer	1.00	\$192
Grade 1 lumber	.45	\$ 86
Grade 2 lumber	.22	\$ 42
Grade 3 lumber	.07	\$ 13

\* Prices are estimates, used only to show the affect of grade on log value.

From this table, the importance of proper log grading is apparent. A prime veneer log could have a value of \$383, while the same dimension log of lower grade # 3 has a value of \$13. It would require 30 grade # 3 logs to equal the value of one prime veneer.

For more information contact: *David Mercker at 713-425-4703*  
[dcmercker@utk.edu](mailto:dcmercker@utk.edu)

## **Hazard Tree Calls**

*Larry Tankersley, Extension Specialist, Forest Management*

We have publications on hazard storm damaged trees located on the departmental website:

<http://www.utextension.utk.edu/publications/spfiles/sp573.pdf>

<http://www.utextension.utk.edu/publications/spfiles/sp575.pdf>

Alan Windham in Plant Pathology produced a “checklist for considering tree hazards.

The national hazard tree website is also a valuable resource: <http://www.na.fs.fed.us/spfo/hazard/>

It’s important to note a few things. To be a hazard tree it has to have a target. Targets include fences, vehicles, structures, pedestrians, . . . you get the idea.

Wind comes in a variety of forms. Trees subject to acute blasts from straight line winds or tornados, fall with no advanced warning. Trees that would not “grade” as hazards often fall in these unpredictable events.

Winds however are also chronic which means that they blow from essentially the same direction and same speed consistently thru the life of the tree. Many folks have seen pictures of trees shaped by chronic winds. These instances are extreme, but all trees respond to wind by producing tissues in locations along the trunk determined by stresses from swaying.

One diagnostic recommendation is that a strong taper seems to be more stable in general winds than longer more cylindrical trunks.

For more information contact: *Larry Tankersley at 865-974-7346*  
[latankersley@utk.edu](mailto:latankersley@utk.edu)

###

## **Pond Construction and Renovation**

*Reprint of article by Tom Hill, Professor Emeritus, Fisheries Management*

Many ponds are built or renovated this time of year. Likely the best reason for this is because it is dry and equipment can be gotten in and used in places that are too wet most of the year.

We have several publications with very good information that could be worthwhile for anyone who plans to either build or renovate a pond. “*Watershed Fish Ponds- - Site Selection and Construction*”, SP374-J, has been around for ten years, but the principles are still very appropriate. Other publications with information that could be very helpful are “*Repairing Fish Pond Levees*”, SP374-X, and “*Renovating Leaky Ponds*”, SP374-Y.

In instances where an existing pond does not need physical repairs, but the fish population is out of balance and re-stocking is required, “*Farm Pond Renovation*”, PB1103, has information on how and when to use rotenone. Once the fish population is eradicated, “*Management of Farm Fish Ponds in Tennessee*”, PB1231, provides guidance all the way from stocking the pond through the harvesting process. Other useful information can be found at [www.utextension.utk.edu/aquafish](http://www.utextension.utk.edu/aquafish).

###

## **Stocking New or Renovated Ponds**

*Reprint of article by Tom Hill, Professor Emeritus, Fisheries Management*

Fish for stocking either new or renovated recreational ponds can be obtained from Tennessee Wildlife Resources Agency. Bluegill and redear are supplied in the fall and largemouth bass the following spring. A fee is charged for the fish, based on the acreage stocked. An application blank completed and **postmarked by September 30** will assure the fish will be received. An application form and information about the program can be obtained at any TWRA office or by visiting the website at [www.tnwildlife.org](http://www.tnwildlife.org). Type in the following website <http://www.state.tn.us/twra/fish/pond/pondfish.html> and this should take you right into the “Fish For Stocking Website” where you will also find the TWRA Pond Fish Application.

For further questions regarding the pond stocking program call 615/781-6577.

###

The Agricultural Extension Service offers its programs to all eligible persons regardless of race, color, national origin, sex, age, disability, religion or veteran status and is an Equal Opportunity Employer.

COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS

The University of Tennessee Institute of Agriculture, U.S. Department of Agriculture,  
and county governments cooperating in furtherance of Acts of May 8 and June 30, 1914.

Agricultural Extension Service