



Update Newsletter

Department of Forestry, Wildlife and Fisheries

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

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New Online Education Program Developed by UT-FWF

Sam Jackson, Research Associate, Bioenergy Programs



The University of Tennessee, Department of Forestry, Wildlife, and Fisheries Extension has developed a new online educational program. You may be aware of the Tennessee Healthy Hardwoods workshop program. As part of this effort, UT Extension is pleased to bring you an online version of the workshop. This web-based program is available to you 24 hours a day, 7 days a week. To access the program, visit <http://www.healthyhardwoods.com>.

The online version of the program covers forestland management incentives, best management practices, site preparation, regeneration planning, and seedling planting and care. Information in all these areas can help you successfully manage your hardwood forest to meet your objectives. The program includes videos, publications, a virtual tour of a state forest, and other activities. Some of the familiar faces you'll see include David Mercker, Larry Tankersley, and Wayne Clatterbuck from UT Extension, and David Arnold and Robert Baker, from the Tennessee Division of Forestry.

UT Extension is always looking to improve and expand the methods of delivering programs. This program is a research effort by which Extension would like to evaluate web-based educational tools. Your participation in and opinions of this program are important in the development of future programs. At the end of the program, you will be asked to complete a short survey. By completing the survey, you will be entered to win a great forestry prize pack!

Please visit <http://www.healthyhardwoods.com> today and utilize this exciting, new educational program.

Wildlife Management Calendar for June

by Craig Harper, Associate Professor, Wildlife Management

Habitat Management

Finish planting native warm-season grasses and associated forbs

- plantings through mid-June will do fine with adequate rainfall later in the month
- existing sod should be killed before planting
- use preemergence herbicides (e.g., imazapic) when planting bluestems and indiagrass
- plant seed **no deeper** than ¼ inch
- be patient!
- refer to *Native Warm-Season Grasses: Identification, Establishment, and Management for Wildlife and Forage Production in the Mid-South*, PB 1752, http://www.utextension.utk.edu/publications/pbfiles/PB1752_C5.pdf, for additional information

Plant firebreaks and other disked strips not left for natural vegetation

- iron-clay cowpeas, re-seeding soybeans, grain sorghum, Egyptian wheat, and various millets provide forage and/or - seed for a variety of wildlife species
- see *Growing and Managing Successful Food Plots for Wildlife in the Mid-South*, PB 1743, <http://www.utextension.utk.edu/publications/pbfiles/PB1743.pdf>, for seeding rates and additional information

Plant warm-season food plots

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

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

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

- see *Growing and Managing Successful Food Plots for Wildlife in the Mid-South*, PB 1743, for specific herbicide recommendations

DO NOT mow old-fields!

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

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

Establish salt/mineral licks for white-tailed deer

Spray woody competitors in native warm-season grasses and old-field habitats

- multiflora rose, privet, sericea lespedeza, sweetgum, elms, etc.
- Roundup[®], Garlon[®], Arsenal[®], Ally[®], and PastureGard[®] are good herbicide options

Wildlife Damage/Population Management

Leave young wildlife alone

- let nature take its course; you'll do more harm than good by trying to save "orphans"

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

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

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

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

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

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

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

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

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

Refer to *Managing Nuisance Animals and Associated Damage Around the Home*, PB 1624, <http://www.utextension.utk.edu/publications/pbfiles/pb1624.pdf>, for additional wildlife damage management information

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

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When Tornado Strikes: What to Know About Claiming a Casualty Loss

David Mercker, Extension Forester, Forest Management

Risk is inherent to long-term investments. Perhaps no risk is more greatly feared by timberland owners than a direct tornado strike. Damage is normally so devastating that the decrease in timber value reaches 70 to 100 percent loss. Landowners are often left confused about how to proceed. The following steps are suggested to help in salvaging damaged timber and in maximizing IRS tax deductions via timber casualty loss.

Before a casualty loss can be claimed, landowners should document and keep as evidence the tornado casualty with newspaper articles and photographs. An attempt must also be made to salvage the damaged timber by contacting professional foresters and loggers. Salvage revenue is deducted off the casualty loss. Begin by salvaging the better stands of timber first. Understand that salvage logging is often difficult and unsuccessful, with logger interest very low due to a number of constraints, including: harvest dangers, slow logging production, and unseen quality defects in the wood.

The next action is to attempt to claim a *casualty loss*. The IRS recognizes a casualty loss as the “actual loss of tangible or measurable property, which is evidenced by a closed and complete transaction, fixed by identifiable events, and actually sustained during the taxable year.” The casualty must be a natural or other external force, acting in a sudden, unexpected, and unusual manner. Therefore, tornados and fires qualify; diseases and drought don’t. The amount deductible as a casualty loss is the lesser of: 1) the decrease in fair market value of the timber as a result of the casualty or 2) the adjusted tax basis in the timber, *less* any salvage revenue.

Arriving at the **decrease in fair market value** (FMV) requires an inventory and appraisal normally conducted by a professional forester. Essentially it’s the difference between the timber value directly prior to and directly following the casualty. Foresters can estimate these two values. If salvage income was realized from the damaged timber, this must be included in the calculation. Logging tickets and receipts should be saved to aid the forester in estimating the decrease in FMV.

Arriving at the **adjusted tax basis** is normally more challenging. Essentially the tax basis is the investment value or the amount invested in a capital item. When the property is sold, or when there is a loss, or the property (the timber) is used up, the basis is depleted by recovering it through deductions to gross income on tax returns. The original tax basis varies according to how the property was acquired, whether purchased, inherited or gifted. In cases of purchased property, the basis is the total acquisition cost of the timber. With inherited property, the basis can be stepped-up to the FMV at the time of the donor’s death. When property is gifted, the recipient obtains the donor’s basis. With most ownerships, the basis exists, but was never allocated at the time of land acquisition. In other words, a forester did not appraise the timber. In such cases, a forester can make a current inventory of the timber then adjust the current volume and value back to the time of acquisition and arrive at the basis. If timber has been logged between the time of acquisition and the casualty, the basis would then be adjusted down to reflect the depleted trees.

Once the decrease in FMV and the basis are known, casualty loss can be figured. It is the lesser of these two. Normally if the casualty is extensive, the decrease in FMV will exceed the basis and a landowner will not be able to recapture the full loss from the tornado. If the basis is zero, the casualty loss is zero. Situations where the basis might be zero (or negligently low) might include:

Timberland that was acquired many years ago that has grown considerably (i.e., timber value was insignificant at the time of acquisition);

- > Timber that had naturally regenerated after acquisition (for instance after a clearcut or after a field was abandoned) with no owner investment in the new trees;
- > Reforested land where costs were recovered through tax credits, deductions, or government cost-sharing;

- > Property that was gifted and the giftor's basis was low or zero;
- > The basis account has already been fully depleted from prior timber sales.
- > Casualty losses are reported on IRS Form 4684.

If a casualty loss can't be claimed, and salvage revenue was received, the income must be reported as a capital gain. Likewise, if salvage revenue exceeds the basis, this excess is a taxable capital gain.

Claiming a casualty loss is a complicated process. Unless landowners have considerable knowledge of timber inventory and appraisal, they should work with experienced foresters and tax accountants. Finally, it is good business to have timber appraised shortly after acquisition, to establish a tax basis, thereby making the process described here much easier. For more information, refer to the National Timber Tax Website – www.timbertax.org .

For more information contact David Mercker at 731-425-4703 or dcmercker@utk.edu

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Workshop Announcement on Cocongrass, an Invasive Plant Threat in Tennessee

Wayne K. Clatterbuck, Professor, Forest Management and Silviculture

A cocongrass workshop will be held on Tuesday, July 22, 2008 from 10:00 am to 2:30 pm (central time) at the Ed Jones Auditorium on the Ellington Agricultural Center campus in Nashville. The Tennessee Exotic Pest Plant Council is organizing the workshop. Dr. David Moorhead of the University of Georgia, Warnell School of Forest Resources will be conducting the workshop.

Cocongrass is widely considered to be one of the more pervasive invasive plant threats in the southeastern United States. It invades forests, pastureland, and right of ways; is highly flammable; and impacts wildlife habitat (native species) as well as the recreational value of land. Control is costly, often exceeding \$200 per acre. The first confirmed presence of cocongrass in Tennessee was in Henderson County during the spring of 2008.



Photo by U.S. Fish and Wildlife Service

After a brief introduction about the life cycle of cocongrass, Dr. Moorhead will cover several topics: plant identification, effective treatment and control methods, preventing spread and distribution (equipment sanitation), and inter-agency task force efforts to manage cocongrass.

For more information, contact Anni Self at 615-837-5313 or anni.self@state.tn.us.

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Wood Pellets – A Clean and Convenient Form for Fuel Options

Adam Taylor, Assistant Professor, Wood Products Specialist

With the growing interest in biomass, people are increasingly looking to wood products as alternative fuels. While the conversion of wood and other cellulosic materials to ethanol or bio-oil offers exciting possibilities for producing liquid fuels and other products, simply burning wood can be a cost effective, technologically-feasible and environmentally-friendly fuel option. Wood pellets offer an additional clean and convenient way to heat with wood.

Burning wood for heating and cooking is as old as human civilization and even today consumes over half the wood harvested worldwide. Burning wood for fuel to power lumber drying kilns and pulp and paper plants is also the biggest source of renewable energy in the United States. Wood is less costly as a fuel than most other sources of energy (with the exception of coal) and the technology to burn wood cleanly in factories and homes is well developed. Burning wood is also 'green' because it is an abundant and renewable resource and it is 'carbon neutral' in terms of its contribution to greenhouse gas emissions.

Burning wood to heat one's home has all of the potential benefits of burning wood at an industrial scale, with the added advantage of the pleasure associated with watching a cozy fire. However, burning firewood to heat your home is less convenient than simply flipping the switch on a gas- or electric-powered furnace. This is where wood pellets can fit in as a more convenient form of firewood.

Wood pellets are made from sawdust and ground wood that is compressed under heat and pressure. No glue is required – the lignin in the wood binds the particles together. Pellets are made from clean and dry wood processing residues – for example the off-cuts from wood flooring manufacture. Because they are small and dry they burn very well, with very little ash or smoke.

Pellets are also very easy and clean to handle. Pellets are usually packaged in 40-pound bags and pellet stoves are being equipped with hoppers and thermostatically-controlled feed-screws. Simply dump a bag or two into the hopper and the rest is taken care of!

Wood fuel pellets are common in the US northeast, where burning wood to heat homes is more well-established. However, there has been a big increase in fuel pellet production in the US and Europe recently, as countries in Europe search for ways to reduce their consumption of fossil fuels. New pellet plants are also being installed here in the southeast, including in Tennessee where we have many hardwood flooring plants that produce an ideal raw material for pellet products.

Burning firewood has many advantages. Wood pellets made in Tennessee offer a more convenient form of excellent wood fuel.



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

Selective Cutting is a Non-Definable Curse!

Wayne K. Clatterbuck, Professor, Forest Management and Silviculture

What is selective cutting or selective logging? Most professional foresters do not use the term because it is undefinable. Too often the definition is unique to the one doing the talking and likely means something quite different to the one listening. Selective cutting can mean anything from a deliberate high-grade or diameter-limit cut to a small project where a landowner just needs a few trees cut. However, selective cutting is nothing more than a cutting scheme with no provisions for regeneration, i.e., the future growth in the stand. Financially, it is the same as spending most of the principal of your investment, then wondering 20 years later why there is little accrued interest.

Selective cutting is also known as diameter-limit cutting or high-grading. Usually all trees that will pay their way out of the woods (trees exceeding a certain diameter) are removed. Selective cutting leaves inferior stems and usually species, a degradation of the future forest. Desirable species regeneration is not encouraged. This method of cutting is purely extractive and does not plan for the development of the future forest. It is a recognizable form of “dysgenic selection,” meaning that the gene pool is considerably weakened, especially if diameter-limit cutting is done in the same stand several times.

Too often, people equate small trees only with young age classes. Although young trees are usually smaller, it is not always true that small trees are young. Different species grow at different rates, differentiating into crown classes: dominant, co-dominant, intermediate and suppressed/overtopped. The most rapid growing species soon dominate the upper canopy, relegating the slower growing species to the mid-canopy and understory. What appear to be a cohort of young, small trees ready to occupy the upper canopy when the harvest of the upper canopy is completed, is really a stratified mixture of species of a similar age. The trees in the understory are the same age as the stems in the upper canopy. Instead of being young, vigorous understory trees waiting for the opportunity to grow, they are really old, small diameter stems with little growth potential.

Research on overtopped white oaks on the Cumberland Plateau in Tennessee illustrated this point. Fifteen-year growth data after a diameter-limit harvest showed that the remaining, lower canopy trees were not an asset worth taking into the future. Height, diameter and volume growth were minimal. A cycle of repeated high-grade harvests resulted in the development and perpetuation of a degraded forest.

Most understory tree species in hardwood forests do not constitute upper canopy tree potential for the more valued species. Oak-dominated stands often have understories of red maple, sourwood, blackgum, redbud, dogwood and a number of shrubs, but it's rare that the more valued species of oak, ash and others form an understory that will respond favorably to release. Intermediate practices should be implemented to favor the regeneration and development of the desired species before a harvest takes place.

The solution is not to practice selective cutting, but to prescribe thinnings or partial cuts with the objective of perpetuating the growth and development of the remaining trees in the stand. Enough trees remain (acceptable growing stock) that they will use the vacated space of the cut trees to expand their crowns and grow larger. Thinnings will emphasize the trees that will remain and constitute the future forest rather than the trees that are harvested. If there are not enough acceptable growing stock trees remaining with the potential for a future harvest, then provisions should be made to regenerate the stand for the favored species.

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

Checking Fish Population Balance in Farm Ponds

Tom Hill, Professor Emeritus, Fish Management

In order to maintain balanced fish populations in farm ponds, it is important to know the structure of the populations. There are two basic ways to do this, fishing and seining.

Where a desirable population is present in a pond, many bluegill 6 inches and larger will be caught. Many different sizes of largemouth bass in good condition with an average weight between 1 and 2 pounds will be taken. If most of the bluegill caught are 3 to 5 inches and thin and the few bass caught are large and in good condition, the pond is overcrowded with bluegill.

A pond with a balanced population when seined with a 15 foot minnow seine during the summer will have an average of two young-of-year bass and recent bluegill reproduction. A few intermediate bluegill will likely be caught, also. No young bass and no bluegill reproduction indicate an unbalanced fish population. This balance check method is quite effective, but is only useful after both bass and bluegill have already spawned.

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Hybrid Sunfish are Good for Small Ponds

Tom Hill, Professor Emeritus, Fisheries Management

Hybrid Sunfish (bream) are a viable alternative for small pond owners in Tennessee who want to grow fish, but may not want catfish for various reasons. Hybrid sunfish have the advantages that they grow rapidly, do not reproduce excessively, are good to eat and are highly vulnerable to fishing. This latter characteristic may actually be a disadvantage because hybrids can be fished out of a pond in a short time when fishing pressure is heavy.

There are many ponds in the state that are less than one-fourth acre. Research has shown that ponds this small have difficulty establishing and maintaining balanced populations of large-mouth bass and bluegill. As a result, fisheries biologists usually recommend that they be stocked with catfish.

Channel catfish smaller than one pound are not very well accepted for sport fishing. However, one-half pound bream from farm ponds are considered outstanding. This means that twice as many fish should be available to be caught from a pond stocked with hybrid bream.

Hybrid sunfish can be produced by stocking together five males and five females of the desired cross per surface acre. Before the breeder fish are stocked, it is absolutely necessary that every other fish be eliminated from the pond. Correct identification of the sexes is essential, and males and females to be mated should be about the same size. It is fairly routine to sex sunfish during the spawning season as males will discharge milt and females discharge eggs when the abdomen is gently pressed. Some studies have shown it to be advisable to remove the red opercular tab from the redear males before stocking with other species of sunfish.

Hybrid sunfish fingerlings may be stocked in fertilized ponds at 1,000 to 1,500 per surface acre. One-half as many should be stocked in unfertilized ponds. If pelleted fish food is fed daily, the stocking rate can be increased to 3,000 bluegill-green sunfish hybrids per surface acre. This practice is not recommended with redear-green sunfish hybrids since they do not readily consume pelleted fish foods.

Whichever hybrid sunfish is used, 50 largemouth bass (1-2 inch) fingerlings per acre should be stocked. The bass will keep the reproduction from the hybrids under control and more food will be available for the larger fish.

Records of the numbers of hybrid sunfish harvested from a pond should be kept. Since it will be necessary to periodically either drain or poison the pond and restock it, the records will help the pond owner decide when this needs to be done. If another small pond is available, it may be used as a brood pond to hatch hybrid sunfish for stocking.

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Grass Carp for Weed Control in Ponds

Tom Hill, Professor Emeritus, Fisheries Management

Stocking Chinese grass carp, sometimes called *white amur*, in farm ponds is an effective way to control aquatic weeds and filamentous algae. Grass carp are almost exclusively plant eaters, so reliance on herbicides is greatly reduced.

Depending on the amounts and types of aquatic weeds to be controlled, stocking rates of 5 up to 100 per acre are recommended. The lower rate is advisable unless the weed problem is extremely heavy. In smaller ponds where some of the grass carp can be recovered once the weeds are under control, a higher rate of 75 to 100 per acre can be stocked. In ponds where largemouth bass are already established, grass carp stockers should be 9 to 10 inches long or they will be eaten. Smaller grass carp can be stocked where predator fish are absent.

Once grass carp are very large (30-35 pounds), they are not very efficient at eating aquatic weeds. Catch the large ones and eat them as they are very good. Replace the harvested grass carp with 9 to 10 inch stockers.

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Hardwood Analysis and Trends (HAT) – May 2008

David Mercker, Extension Forester, Forest Management

HAT tracks #1 common 4/4 lumber. This is “average” quality lumber that measures one inch thick. Further this is lumber, not logs, nor standing trees. The direction of lumber price normally precedes the direction of log and standing tree price. Disappointingly, lumber prices have not improved over the course of the past few months. **As of April 20 of 2008, the following changes have occurred this year in the species tracked by HAT:** black cherry (- 17%); sugar maple, yellow poplar, and hickory (all -6%); Black walnut (-4%), white oak and soft maple (-2%), ash (+2%), and red oak (no change).

The main concerns for the hardwood industry include: new and used home sales are down, building permits are down, diesel prices are up and rising, and general consumer anxiety. The recent tornados around the state caused heavy, but isolated, timber damage in at least six counties. Some of this salvage timber is entering the market keeping inventory high. Logging has been hampered some by the recent wet weather.

The late spring 2007 freeze coupled with the summer drought brought stress to trees throughout the state. Most trees have endured this, although over-mature trees and those growing on already dry sites, may slowly decline if not die. In turn, if salvaged, this may place additional wood volume in the already over-supplied chain.

For a more local picture of the log and standing tree prices in your area, you are encouraged to contact consulting foresters. Many of them are active in evaluating, appraising, and marketing standing timber and give a more thorough regional assessment. For a list of consultants, see: <http://www.state.tn.us/agriculture/forestry>.

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

TheUNIVERSITYofTENNESSEE

Programs in agriculture and natural resources, 4-H youth development,
family and consumer sciences, and resource development.

University of Tennessee Institute of Agriculture, U. S. Department of Agriculture
and county governments cooperating.

UT Extension provides equal opportunities in programs and employment.