



Forestry, Wildlife & Fisheries Update Newsletter

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

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Calendar of Events - 2003

- April 24 Smoky Mountain Envirothon, Dandridge
- May 5 South Cumberland Forestry Field Day, Sky mont Boy Scout Camp
- May 12 4-H Forestry and Wildlife Judging Contest, Smoky Mtn. District
- May 13 4-H Forestry and Wildlife Judging Contest, Cumberland District
- May 14 4-H Forestry and Wildlife Judging Contest, Central District
- May 15 4-H Forestry and Wildlife Judging Contest, Western District
- June 6 State 4-H Jr. High Wildlife Conference, Milan
- June 12 State 4-H Wildlife Judging Contest

Faculty:

Wayne Clatterbuck, Forest/Silviculture Mgmt.
Craig Harper, Wildlife Management
Thomas Hill, Fisheries Management
Sam Jackson, Web Coordinator

George Hopper, Natural Resources
David Mercker, Forest Management
Larry Tankersley, Forest Management

South Cumberland Field Day in Grundy County

Larry Tankersley, Extension Specialist I, Forest Management

The South Cumberland Forestry Field Day will be held May 5th at Skymont Boy Scout Camp, Assemble around 1:30 PM. Several experts will make presentations and be available to answer questions. Get a group together and come on out! For more information contact Creig Kimbro at (931) 592-3971.

For more information contact: *Larry Tankersley at 865-974-7346*
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4-H Forestry and Wildlife Judging Contests

Larry Tankersley, Extension Specialist I, Forest Management

- May 12, Smoky Mountain District, Knoxville Experiment Station, report to Conference room, District office
- May 13, Cumberland District report to the 4-H camp
- May 14, Central District TBA
- May 15, Western District report to the Pinson Nursery

Let's assemble around 3:00 P.M. local time.

I hope everyone is enjoying the spring and working with your 4-H Forestry team. I can't think of a better activity for your County Forestry Associations.

A number of folks have asked, and Site Evaluation is a State Contest only event. I admit that it is a very exciting event to study and prepare for, but we have to identify the components of a forest before we can commence management.

District contests in forestry are the usual tree identification, insect and disease identification, and tree measuring. Senior 4-H'ers also have wood identification, and a compass and pacing exercise. Juniors (anybody not a Senior) have a pacing exercise that does not require the use of a compass, and these students are only required to measure three trees rather than the five required by the Seniors.

Keep in touch and let us know how we can help you prepare for the contests. See you there!

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Refrain From “Saving” Young Wildlife

Craig A. Harper, Assistant Professor, Wildlife Management

It's that time of year when people find young animals that have been “orphaned.” Young songbirds and deer appear helpless and some folks think they are doing these animals a favor by picking them up and “saving” them. The best way to help them is to leave them alone. Usually, these animals have not been orphaned, but are waiting on their parent(s) to return. Often, the parent(s) is present, but out of sight to the well-meaning onlooker.

Female deer regularly hide their fawns in high weeds and grass and leave the fawn(s) while feeding in the surrounding area. Although the doe may give birth to two (and, in some cases, three) fawns, they are kept separate (hidden in separate locations) until approximately 1 month of age when they join the doe in her daily travels. This strategy aids in the fawns' survival. Fawns give off very little scent early in life and by keeping still and hidden the probability of surviving predation is higher than by trying to run with under-developed legs.

Young songbirds go through a tough period upon leaving the nest. Initially, the chicks appear to have fallen out of the nest, and, in reality, that is exactly what they did—but they did so on purpose! They “outgrow” the nest and are ready to learn to fly. During the first few days out of the nest, the young birds are quite vulnerable to a host of predators. However, food is generally not a problem because the parent(s) remain nearby and continue to feed them. Once they become fairly proficient flyers, their survival rate increases dramatically.

Survival of all young wildlife is relatively low—most die before reaching one month of age. That is nature. Exposure and predation are primary causes of mortality during this period. It is important to keep in mind that young foxes, bobcats, hawks, and owls have to eat as well. In addition, it is a violation of Tennessee state law to take animals from the wild and keep them in captivity while trying to “raise” them. Although it may seem cruel, it is best to let nature take its course and leave young wildlife alone.

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Stocking Fish Fingerlings in Farm Ponds

Thomas K. Hill, Professor, Fisheries Management

Have you ever stocked a farm pond with fish fingerlings and had some or all of them die right away? If you have, the mortalities may have been caused by the way you handled the fish as you put them into the pond. A few precautions can greatly reduce the risks.

Fish hauling containers should be clean and never have been used for toxic chemicals. Plastic bags make good container liners. When the fingerlings are ready to load, fill the haul container halfway with well-aerated water. Put the fish in and tie a burlap bag across the top of the container to prevent fish from sloshing out. A small battery powered aerator is also desirable if distant travel is involved. Arrange to get the fish to the pond as quickly as possible.

The body temperature of fish is determined by the temperature of the water. They cannot withstand rapid changes in water temperature. Many fish, especially small fingerlings used to stock farm ponds, will die from shock when exposed to rapid temperature changes of as little as 10 degrees Fahrenheit.

When the temperatures of the hauling water and the pond water differ, fish should be gradually tempered. To temper the fish, empty about a third of the hauling water and add back an equal amount of pond water. Wait about 30 minutes and do the same thing again. Follow this procedure until the water temperatures in both the container and the pond are similar. The fish will adjust slowly to the change and temperature shock which can often cause death, will be avoided.

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Stocking New Ponds with Adult Fish

Thomas K. Hill, Professor, Fisheries Management

There is a way to get your pond fish population started without waiting until next fall. Go fishing, catch some adult bluegill and largemouth bass (10 pairs of each species per acre) and stock them in your pond. This needs to be done in early spring before spawning begins. These fish will spawn and stock the pond with their offspring.

Largemouth bass weighing about three-fourths pound are ideal size. They will be able to live and do well on an insect diet, while larger ones likely require mostly a fish diet. The bass will be difficult to sex. Those with larger, rounded abdomens can be assumed to be females. When spawning time gets closer, white milt can be squeezed from males. At any rate, a group of 10 bass per acre should contain some males and some females.

Any bluegill weighing three to four ounces will be sexually mature. They are fairly easy to sex. The males are darker overall, especially on the head and back, with an orange breast. The females are lighter gray color with obvious vertical bars on their sides, and the breast is not colored orange. These fish will spawn several times during the summer and furnish forage for the young bass. Also, if they are in the pond where you are getting your bluegill, catch five pairs of red-ear adults and stock them in your pond.

If catfish are desired, stock no more than 100 per acre. They should be no smaller than 6-7 inches, assuming the adult largemouth bass stocked were about 12 inches long.

A pond stocked in this way and fertilized should produce harvestable size largemouth bass, bluegill and catfish within 12 months. Harvest about 150 pounds per acre the first year and about 200 pound in subsequent years, being careful to take 4-5 pounds of bluegill for each pound of largemouth bass.

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Assessing Factors for Tree Growth

David Mercker, Extension Assistant II, Forest Management

Trees are living organisms, some of them the oldest on earth. Certain conditions or factors must be met for their survival. Complete removal of just one factor results in mortality. Partial removal of any factor often indirectly results in less availability of another factor, collectively lessening tree vigor and making it more susceptible to decline.

Factors affecting tree growth include: water, sunlight, nutrients, temperature, oxygen (O₂) and carbon dioxide (CO₂). Rarely are the latter three limiting (although if the soil is kept constantly moist, the soil O₂ levels could fall creating anaerobic conditions). However, the first three factors often are limiting and are the cause of premature mortality or decline. A brief description of water, sunlight, and nutrients as related to tree growth follows.

Water – more often than not, water is the leading limiting factor for vigorous tree growth. Water is available to trees as soil capillary water. Soil in yard settings is often compacted and underlain with hardpans. Such soils are slow to absorb and then to release water. During periods of low soil moisture, water more tightly adheres to the soil particles at increasingly stronger tensions, making it difficult for the tree to extract it. Some trees are good drought avoiders, quickly closing stomata (leaf pores), reducing transpiration and the “need” for water. Other trees adapt by developing thick leaves or waxy leaf cuticle (surface), thereby conserving water.

Sunlight – photosynthesis is a plant process dependent upon the availability of sunlight. It is the process which allows plants to convert the sun’s energy into photosynthates (usable plant energy). When trees become shaded either by other plant competition or by physical structures, photosynthesis declines as too will growth rate. With less energy available for root and stem expansion, trees weaken and may eventually die.

Nutrients – the lack of sufficient nutrients can strongly affect tree vigor. Nutrients do not concentrate in the wood (xylem) of trees. Rather, nutrients accumulate in areas where they are most needed: leaves, phloem, buds, root tips and reproductive organs. Some tree species are very site sensitive and do not adapt well to low nutrient availability. Other trees have the advantage of many fine roots aiding in extracting nutrients in poor soils. Conifers are an example.

When examining a tree to determine the cause of its ailment, consider the factors necessary for its growth. Assessing factors in the above order – water/sunlight/nutrients - will aid in quick discovery of the problem.

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Uneven-Aged Management: Sounds Good, But Can It Be Sustainably Accomplished in Tennessee’s Hardwood Forests

Wayne K. Clatterbuck, Associate 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.

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Tennessee Forest Products Market Report - 1st Quarter 2003

	East Tennessee	West Tennessee	Statewide Average
<u>Stumpage</u>			
Pine Sawtimber \$/MBF Doyle	245	292	268
Oak Sawtimber \$/MBF Doyle	326	358	342
MXD HDW Sawtimber \$/MBF Doyle	232	179	205
Pine Pulpwood \$/Ton	7.27	9.02	8.14
HDW Pulpwood \$/Ton	6.73	6.98	6.85
<u>Delivered</u>			
Pine Sawtimber \$/MBF Doyle	349	500	424
Oak Sawtimber \$/MBF Doyle	482	447	464
MXD HDW Sawtimber \$/MBF Doyle	298	275	287
Pine Pulpwood \$/Ton	21.09	23.44	22.27
HDW Pulpwood \$/Ton	21.12	25.25	23.18

Note:

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Explanatory Notes:

Prices: Prices given in this report are average prices in the current issue of *Timber Mart-South*. Prices for specific timber stands or products may vary significantly from the average prices listed due to location and accessibility of the timber, volume per acre, area included in the sale, restrictions placed on the harvest, size, quality and species of the stand or delivered product, and local demand.

Stumpage price is the price of timber standing in the woods.

Delivered price is the price of harvested products paid at the mill or the loading point (with no freight included).

Prices for sawtimber are given in dollars per thousand board feet (\$MBF) based on the Doyle log rule. The Doyle rule is the predominate rule for measuring tree and log volume in Tennessee. To convert prices to International rule, multiply the price by .61. This rule is for average values and cannot be used to convert individual log or tree volumes.

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