



Forestry, Wildlife & Fisheries Update Newsletter

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Drought Increases Importance of Protecting Wildlife Habitat: Mowing Not Advised.

Craig Harper, Associate Professor, Wildlife Management

Biologists with the University of Tennessee (UT) Extension, the USDA Natural Resources Conservation Service (NRCS), and the Tennessee Wildlife Resources Agency (TWRA) want to remind landowners that protecting and maintaining quality habitat will be key to the having wildlife on their property, especially during drought conditions. “Many landowners and tenant farmers just mow their fields this time of year with little thought to habitat management or adverse impacts on wildlife,” states TWRA biologist Aubrey Deck.

According to Deck, many people mow entire fields, after seeing just a few saplings or tall weeds. Wildlife experts advise preserving habitat and using more cost-efficient and wildlife friendly techniques like selective herbiciding, as a means of controlling saplings and maintaining wildlife habitat rather than mowing.

“Mowing during the growing season is the worst possible management practice a landowner could implement if interested in bobwhites. Additional birds in the fall are a product of reproduction and brood survival. Recruitment is severely reduced if habitat required for reproduction and rearing young is destroyed when it is needed most!”, adds Dr. Craig Harper, Wildlife Extension Specialist with UT.

“What landowners fail to realize is mowing is rarely needed or advised. Better options for field management exist”, says NRCS biologist Mike Hansbrough. “It is extremely critical to allow native grasses and interspersed shrubby areas to remain unmowed for quality quail cover, unfortunately, these are many times the first places that are mowed”, added Hansbrough.

Biologists want to emphasize that native grasses and brushy areas, known as covey headquarters in overgrown fields, are critical habitat components. These covey headquarters are typically composed of sumac, plum saplings, and briars. This cover helps quail and other wildlife escape the summer heat, and also serves as important security cover from predators in fall and winter. This year’s drought has limited the growth of important habitat types; consequently, protecting habitat from mowing will be critical to many species. Hansbrough concludes, “Wildlife enthusiasts need to keep the mower in the shed.”

Maintaining Drought Stressed Trees

David Mercker, Ph.D., Extension Specialist I, Forest Management

The year 2007 has been especially challenging for trees throughout Tennessee and much of the southeastern U.S. An unusually early spring caused leaves and flowers to emerge prematurely in March, only to be followed by several days of below normal, freezing temperatures in April. The cell walls of many leaves were punctured by freezing ice crystals, causing leaf mortality. Then trees had to draw upon already depleted energy reserves to flush new leaves and accelerate photosynthesis.

About the time that many of the trees were recovering, a second more devastating stress developed in the form of prolonged drought and excessive heat. This caused many trees to initiate early fall dormancy. Essentially trees retarded efforts to grow much in 2007, instead holding their resources for a better chance in 2008. Some leaves and what little fruit that is present, have aborted much earlier than normal. Red oak acorns, hickory nuts and walnuts began dropping prematurely, as early as the second week of the summer. White oak acorns are virtually non-existent throughout most of the region. Squirrels have resorted to feeding on tree buds, which will further affect tree health.

When trees are under extreme stress they will abandon the portions of their system that are least essential in order to direct energy and moisture to the most critical life-sustaining areas. Energy is most needed for maintaining living tissue and for the production of fine roots. Everything else, such as fruit development, stem elongation, and trunk diameter expansion, is secondary. It is difficult to predict how trees are going to respond to this unusual growing season. Many will die. Trees most susceptible to mortality include those: overly mature or newly planted, previously damaged or predisposed to stress (such as lightning, insects, etc.), in over-crowded conditions, and growing on dry soils.

The best remedy for trees in yard settings is to kill the grass directly under the tree crown, conduct slow and deep-waterings twice per week at ½ hour per time, fertilize late this winter, and mulch. If replanting is necessary, drought-tolerant trees should be selected. In the forest setting where watering and fertilizing is impractical, the best remedy is to regulate density by properly timed thinnings and harvests. This will liberate sunlight, water, and nutrients to the remaining trees. As always, it is recommended that inexperienced homeowners and landowners seek professional assistance.

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Supplemental Planting and the Use of Advance Reproduction in Regenerating Oaks

Wayne K. Clatterbuck, Professor, Forest Management and Silviculture

Oak stands can be regenerated by natural means, but advance planning is usually required. When natural regeneration is anticipated, an evaluation must take place to determine regeneration potential. This evaluation should recognize that the primary sources of regeneration are sprouts and advance regeneration (natural seedlings) and that advance regeneration is generally the most dependable source. Size of advance regeneration is critical to success. The most desirable seedlings for regeneration are at least two feet tall and preferably four feet or taller in height. If the evaluation indicates that regeneration potential is adequate, then the stand can be harvested using a complete clearcut or using group selection. If regeneration potential is not adequate, steps can be taken to open up the stand and obtain advance regeneration, providing adequate seed trees are present. Injection of midstory species may be required. The technique is a modified shelterwood method of regeneration.

Where adequate seed trees are not present and it is desired to increase the oak component in the next stand, supplemental or enrichment planting can be used. Success of supplemental planting requires that high-quality, large seedlings be used. These seedlings should have a root-collar diameter of at least 3/8 inches, good development of lateral roots and a height of at least two feet. Supplemental planting can occur following a complete clearcut or by underplanting before the final harvest. When planting in a clearcut, the planting spots should be chosen so that the seedling will not likely be overtopped by sprout-origin seedlings of other species and will not be too close to existing seedlings of desirable species. Underplanting of oaks can be very successful, but harvesting and/or injection are required to insure enough light for growth of seedlings. Treatment may require only partial cutting of the main canopy, injection of midstory species, or both, depending on stand and midstory density.

For more information contact Wayne Clatterbuck at 865-974-7990 or wclatterbuck@utk.edu.

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Cumberlands Science Conference

Wayne K. Clatterbuck, Professor, Forest Management and Silviculture

The Conference “Scientific Foundations of Conservation Planning in the Cumberland Plateau and Mountains” will be held November 13 and 14, 2007 in Knoxville, TN. The conference objective is to identify, summarize and evaluate scientific information that is highly relevant to conservation planning and management of natural resources in the Cumberlands. Following the keynote presentations, the conference is organized in three sessions: People and Ecosystems, Conservation Science and Forests of the Cumberlands. An optional pre-conference excursion will take participants to Frozen Head State Park and the Museum of Appalachia during the afternoon of November 12.

The Conference Steering Committee includes representatives of Oak Ridge National Laboratory, The Nature Conservancy in Tennessee, University of Tennessee – Knoxville, USDA Forest Service Southern Research Station, and National Council for Air and Stream Improvement. The number of conference participants will be limited by the capacity of the meeting space. Registrations will be accepted until the capacity is filled. The conference program and registration information are posted at <http://www.ncasi.org/Programs/Events/Detail.aspx?id=122>

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Micronized Wood Preservative

Adam Taylor, Assistant Professor, Wood Products Specialist

You may have seen advertisements recently for a new kind of preservative-treated wood. Brand names include Yellowwood MCQ, MicroPro and SmartSense. While the names are new and the properties of the wood are a little different, the preservatives used in these products are simply modified versions of existing formulations.

‘Treated wood’ refers to the green-colored lumber that is widely available at hardware stores and building centers. In Tennessee, this wood is usually southern pine that has been impregnated at a factory with a copper-based wood preservative. The green color is from the copper. In the past, the copper was combined with chromium and arsenic. This “CCA” formulation was the standard for many years. About four years ago, CCA was withdrawn from residential use and replaced with alkaline copper quaternary (ACQ) and copper azole (CA). These preservatives are also copper-based but include organic co-biocides instead of chromium and arsenic. All of these formulations leave the wood green in color (unless a dye is added), clean to the touch, paintable, and protected from insect attack and rot. ACQ and CA are very corrosive to metal, however, so it is important to use only ceramic coated, stainless steel, or other approved screws and nails with treated wood.

The ‘new’ products are variations on ACQ. Instead of using dissolved copper in the preservative, small particles of copper (called ‘micronized copper’) are injected into the wood. Wood treated with micronized copper is less corrosive to metal fasteners and is lighter in color. It is still important to use approved fasteners with micronized-ACQ treated wood but aluminum can be used in contact with the treated wood. The lighter color can be an advantage too: The wood can have a more natural look, and lighter-colored paints and stains can be used.

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