



## Renewable Natural Resources Timely Tips

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### Landowners

Spring 2007

#### Shelterwood Regeneration for Oak

Successful regeneration of oak requires the presence of an adequate number of vigorous large seedlings, or saplings, called advance regeneration. Their occurrence, along with stumps that sprout, is a prerequisite in advance of a regeneration harvest if oak is to maintain itself in the regenerating forest following harvest.

Typically, oak advance regeneration growth must be 3 to 4 feet tall. Advance regeneration of this size has a reasonable chance of growing in height as fast as competing species after a harvest. Seedlings smaller than this are considered low-vigor advance regeneration and simply do not have the capability to grow in height rapidly enough to compete with faster growing species.

In some stands, oaks 1 to 10 inches in diameter are present. If these trees are cut during a regeneration harvest, the stumps will often sprout. Their vigorous growth, a result of their intact large root systems, allows them to compete with other species.

The requirement for advance regeneration and/or stump sprouters to ensure oak regeneration is different from the regeneration requirements of some other commercially important species such as yellow-poplar, black cherry or pines. These species can regenerate adequately from seed that is present at the time of harvest. Therefore, with these species, we do not have to plan very far in advance for their regeneration. However, the growth habit of oak is different, so successful regeneration must be planned for years in advance of a regeneration harvest. This biological necessity has led researchers to describe the management of oak as a process and not an event.

Finding stands with an abundance of adequate oak advance regeneration or trees that are capable of stump sprouting is not difficult on many dry, less productive hardwood sites (site index <65 feet for upland oak). Oak stands on these sites develop an adequate

number of seedlings or contain smaller pole-sized trees capable of sprouting. In addition, there are fewer competing species. As a result, regenerating these sites is not often a problem. Very often, however, finding oak stands with sufficient advance regeneration is difficult on higher productivity sites (generally those with a site index >65 feet). The presence of dense mid-stories on these sites prevents sunlight from reaching the forest floor, where the advance regeneration must develop. Research has shown that small advance regeneration (less than 2 or 3 feet tall) is quickly overgrown by a range of faster-growing, competing species.

Oak seedlings become established after a bumper crop of acorns, usually every three to five years. When they grow under a dense mid-story, most of these small seedlings die over the course of several years. The ones remaining reach only 1 to 2 feet tall before eventually dying. This does not allow for the development of adequate numbers of large advance regeneration. To break this cycle, the proper amount of light must be delivered at the right time for seedlings to grow to the size required for successful regeneration. The oak shelterwood regeneration method is designed to do just that.

This method requires two steps. The objective is to provide an increase in the diffuse light which research has shown to be critical to the development of small oak seedlings. The first step is referred to as a mid-story removal, which involves the chemical deadening of competing under- and mid-story species such as red maple and blackgum. The deadening of these trees is accomplished without affecting the trees in the overstory. After oak advance regeneration has reached adequate size, the full canopy can be removed in a regeneration harvest (second step). The larger saplings can then compete with species that grow rapidly in height.

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

## What Will Biomass Harvest Mean for Our Forests?

With increasing interest in using woody biomass for energy as well as for products, we must consider what increased use of trees might mean for forests and forest landowners. A few years ago there was a proposal to build new chip mills in Tennessee. These mills would have chipped low-value hardwood logs to produce raw material for pulp and paper making. The possible impact of these mills on the forests and forest industry in Tennessee stimulated widespread concern. Would all the trees in the area be cut to feed the new mills? Would existing mills be starved of wood? This was an example of the tension that often arises when potential new markets for forest products are discussed. In the end the chip mill plans in Tennessee were scrapped, but one wonders what the mills would have meant for the economy and forests of the state.

North Carolina provides an interesting example. The number of chip mills in North Carolina expanded from two to 18 in the 1980s and 1990s. Despite this dramatic increase, a new study by researchers at North Carolina State University<sup>1</sup> suggests that the effects of these chip mills were small overall. The new markets created by the chip mills tended to increase pulpwood cutting levels within existing harvests or to increase harvesting of small stands. Small private landowners in particular received modestly increased payments from the increased harvesting. However, the presence of chip mills did not lead to clearcutting of valuable sawtimber, nor did it result in significant changes in forest management practices.

Forests in many areas of the United States are growing much more quickly than they are being cut. However, some of this growth consists of small or deformed trees that will never grow to be large, valuable sawtimber. In some cases, the lack of markets for these low-value trees has led to "high-grading," a poor forest management practice whereby the valuable trees (sawlogs) are cut and the poor timber is left behind. The continued presence of these poor-quality trees in the stand can reduce the future growth and reproduction of the healthier (and higher-value) trees, resulting in increased disease and fire risk as well as lower financial returns for landowners. Harvesting these poor quality trees for bioenergy and bioproducts may be a

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<sup>1</sup>Snider, AG and FW Cabbage. 2006. Economic analyses of wood chip mill expansion in North Carolina: Implications for nonindustrial private forest (NIPF) management. *South. J. Appl. For.* 30(2):102-108

way to both provide useful markets for forest landowners and improve the health of our forests.

*Adam Taylor, Extension Specialist  
Wood Products*

## Hardwood Analysis and Trends (HAT)

The beginning of 2007 is a good time to examine how the six HAT species performed in 2006 and to comment on trends.

**Red Oak** – 2006 continued the disappointment in red oak lumber. This news is tied to two conditions: the fashion trend favoring white wood and an overall decline in both existing and new home sales. The price for average grade red oak lumber fell an additional 6 percent in 2006, stabilizing over the last seven months. Concern exists for additional downward pressure due to increasing lumber inventories and decreasing demand (export shipments have slowed). Prices for average grade red oak are now in-line with the same quality white oak. Of the six species analyzed by HAT, only poplar has a lower market value.

**White Oak** – Tennessee landowners and mills are grateful for the abundance of this species. It performed well during 2006, with average grade lumber increasing at a rate mirroring the inflation rate of 3 percent. The European export business is solid and lumber supplies are reported as only marginally adequate for the market. This species is also a top choice for the truck trailer flooring market, which has remained solid. Prices continue to trend slightly upward.

**Sugar Maple** – Sales of new single-family houses decreased 25.4 percent from October 2005 to October 2006, and remodeling expenditures were also off. Along with this slide went sugar maple. This species has been a favored choice for flooring, cabinets, trim, and furnishings; As with red oak, the average grade lumber price has dropped 6 percent. Business is slow and prices will likely continue trending lower in the short-run. Even with the price reduction, sugar maple prices still exceed average grade oak by a 2:1 rate. Many forested areas of Tennessee contain "pockets" of sugar maple, and mills are usually happy to receive logs.

**Poplar** – Poplar prices remained steady during 2006, with a zero percent price change. While export demand had been supported by the Asian markets, those markets have recently declined, increasing lumber inventories. There is no definitive price direction for 2007. Expect prices to remain static.

**Cherry** – Cherry began 2006 with a 2 percent price drop followed by a 3 percent increase for an

overall minimal change. No species within HAT enjoys a higher current price for average grade lumber than does cherry. Demand has dropped some, but prices have remained firm due to an apparent low supply of available logs.

**Black Walnut** – This species takes top honors for price escalation in 2006, with average grade lumber increasing a stunning 17 percent. It began the year ranked third in value among the HAT species and surpassed sugar maple to become second (only to cherry). International demand is strong as is the domestic hardwood flooring industry. Prices will likely be level in 2007.

*David Mercker, Extension Specialist  
Forest Management*

Summarized with permission of the “Hardwood Market Report,” Memphis, Tennessee.

## Trusting a Trust

One of the best reasons to be involved with the National Tree Farm Organization is the “Tree Farmer” magazine, especially the articles on taxes by Bill Hoover, an Extension forester at Purdue University. A couple of issues back, Hoover discussed the role of trusts in financial and estate plans for forest owners.

Briefly, trusts are legal instruments dating to Roman times and used in English common law to manage the affairs of landowners while they were away fighting for the emperor or king. A trust is a fiduciary relationship, which basically means that a trustee or other person has a legal duty to act according to your wishes on behalf of your beneficiaries. The trustee holds legal title to the designated property.

A trust is created through a carefully crafted legal document, variously called the trust instrument or agreement. This document is very important as it states explicitly the purpose of the trust, the property subject to the agreement, the trustee(s), and the beneficiaries.

One reason for setting up a trust would be to set aside property in order to benefit certain specific individuals or charities. When a trust is established and managed according to Tennessee’s legal system, it will protect the contents of the trust, as Mr. Hoover mentions, from your creditors or from disgruntled beneficiaries.

One of the benefits of placing property in a trust is that it no longer belongs to you. It belongs to the trust and therefore income generated from the property is treated differently for tax purposes. This can be complicated because of the mixing of income, gift and estate tax rules. Tax savings can be considerable and

are major reason for placing assets such as timberland in a trust, but it must be thoughtfully done.

A trust allows you to “rule from the grave” to a greater extent than you could if you just passed the land to your heirs under the assumption they would follow your wishes. Since the trust owns the property, the beneficiaries and the trust are legally bound to your wishes according to the trust agreement.

In timberland trusts, it is typical to find some timber harvesting or other income-generating uses of the land unless other provision for covering ownership and management costs were written into the agreement. Trusts generally can’t last forever unless they are established to benefit a public charity or set up as an “in perpetuity” conservation easement. Trusts established to help family members, especially grandchildren, require that directions for disposition of the property at the termination of the trust are included in the trust document.

“Estate planning in Tennessee” by Anne M. McKinney and John T. Berteau is an interesting book on this subject. It’s about 10 years old but is easy to read and very thought provoking for those of us considering how to pass our timberland on to the next generation.

Always consult an attorney before making any decisions about a trust. Because trusts can be complicated, choose an attorney who is well versed in both Tennessee laws and the applicable federal trust, tax and inheritance laws.

*Larry Tankersley, Extension Specialist  
Forestry, Wildlife and Fisheries*

## Healthy Hardwoods Field Days Set

The Tennessee Forestry Association (TFA) along with the Tennessee Department of Agriculture’s Division of Forestry and University of Tennessee Extension invite you to attend a **Tennessee Healthy Hardwoods Field Day**. Three separate events are planned to demonstrate forest management at selected sites across the state. Plan to attend. Pre-registration is requested so we can order lunch, (call TFA at 800-893-7403) but come whether you have registered or not. Registration begins at 7 a.m. local time with the program beginning a little after 8 a.m.. The same program, which will run through the morning and end with lunch, will be presented at all three locations.

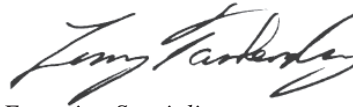
Topics discussed will include management planning, crop tree selection, forest improvement and protecting soil and water. Van tours of the property will give you the opportunity for discussion with other interested persons, fellow landowners and local forestry professionals.

Sound like fun? We'll see you there. Let us know if we can provide additional details.

### Tennessee Healthy Hardwoods Field Days

- May 12** Lone Mountain State Forest  
Morgan County
- May 19** University of the South's Forest  
Franklin County
- June 2** Chickasaw State Forest  
Chester/Hardeman Counties.

If you do not want to continue to receive this publication, please let us know.



*Extension Specialist  
Forestry, Wildlife and Fisheries  
(865) 974-7977*

### Natural Resources Timely Tips — Landowners

**From:**

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**Leader/Agent**

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2431 Joe Johnson Drive Rm 274  
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