



Northeast Texas Forest Landowners Association Newsletter

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How to Determine if Pines Need Thinning

From the January 2002 issue of *The Forestry Source*

When foresters know the proper time and manner to thin a pine stand, they can improve its benefits by permitting the growth of higher quality trees, generating immediate income for landowners through the sale of small-diameter timber, maintaining the health and vigor of the stand, and enhancing wildlife habitat.

Yet determining the appropriate time to thin a pine stand can be difficult. There is no definitive answer as to when a pine stand should be thinned. However, consideration of five criteria—tree diameter, stand density, tree heights, natural pruning, and growth rate—can help foresters make this crucial decision.

Tree Diameter

Trees must be at least 5 inches dbh to be sold for pulpwood, because trees smaller than 5 inches are typically not merchantable. Thinning a stand before the majority of trees are 5 inches dbh or larger may result in "high grading," where the only trees harvested are the larger, faster growing "dominant" trees. These trees should be left as the "crop." When trees are all 5 inches dbh or larger, the slower growing, smaller, less vigorous trees should be thinned to give crop trees more room to grow.

Stand Density

To determine when stand density dictates thinning, use a tree scale stick or a tree diameter measurement tape, and go through the following steps:

- Walk through your stand, and take 10 random 1/100-acre plots evenly distributed over the plantation. Record the number of trees and the dbh of each tree on each plot.
- Take the sum of the diameters of all trees on each plot, and then take the sum of the total number of trees on each plot.
- Add the number of trees counted on all the plots.
- Calculate the trees per acre (TPA) as the total trees counted on all plots divided by the number of plots (10) times 100.
- Calculate the average dbh, the sum of all dbhs divided by the number of trees.
- Locate the average TPA and the average dbh of your stand on a thinning graph to determine if you should wait or proceed with thinning the stand. (For more information, see the PDF version of the "Are My Pine Trees Ready to Thin?" at www.msucare.com/pubs/p2260.html.)

When your stand density indicates your trees are in need of thinning, it is then time to evaluate tree heights, natural pruning, and growth rate factors to determine exactly when to thin.

Tree Heights

Before trees are economically thinned, they should be at least 40 feet tall. If they are less than 40 feet, there may be increased costs associated with hauling the logs from the woods to the mill given that most harvesting operations use tree-length log trucks.

Natural Pruning

Since pines are not shade-tolerant, they undergo "natural pruning"—the process by which pine trees shed their dead limbs from the ground up as a stand becomes crowded. Natural dying of the lower branches to a height of 18 feet should be accomplished before a plantation is thinned. If there are green limbs less than 18 feet from the ground, exposing these limbs to sunlight as a result of thinning will lower tree quality by diverting growth from the main pole of the tree. Therefore, thinning too early can lower log quality, inhibit diameter growth, and reduce tree value.

Growth Rate

Annual growth is the final criteria to use in determining the time to thin. For example, if a stand has the necessary dbh, height, demonstrates natural pruning, and the density to justify thinning, it may still be prudent to wait if the trees show a high growth rate. The result of doing so may be increased harvest volume, higher stumpage prices, and higher per acre income from the first thinning.

The first thinning of a pine plantation may be the most important activity conducted on a stand and will surely affect the future growth and economics of a plantation for the next 20-30 years. And while there is no definitive answer to the question, "Are my pine trees ready to thin?" by evaluating these five criteria, foresters can help landowners maintain the productivity and economic benefits of their land.

Adapted from *Are My Pine Trees Ready to Thin?* by Tim Traugott, a publication of Mississippi State University Extension Service.

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For an archive of "Here's How to..." articles, visit the SAF website at www.safnet.org/howtoarchive.htm.

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www.txforestry.org**



My View

Editor's Note — Sid's gone to the Fat Stock Show in Fort Worth, so his feature is missing this month...reckon a cow ate it? Good fortune, Sid!

Dan Basham, ex-president of the Association, used to tell some pretty good stories in his own column. Here's one from January, 2001 that's appropriate to the winter burning season.

"I Learned About Flying From That" has been a column in Flying magazine for many years. I could have contributed to that column, but my incident was so boneheaded that I decided some things are better untold. However, an incident on the farm (while not evidence of perspicacity) I will share in case there is some landowner who is not aware of the pitfalls of burning. Here is my "I Learned About Fire From That."

It was a mild February day. I was camped alone on the farm. After a good night's sleep and a substantial breakfast, I had my cutting tools in the wheelbarrow and was ready to head for the north boundary to do some clearing. Then the grass and weeds in the clear area around camp caught my eye. Why not burn it? Because of a light dew, it would not burn.

Late that afternoon, after a day in the woods, I was back in camp. The grass looked dry. I thought it might burn. Did it ever!! The fire spread with alacrity. There was water in a nearby slough where I filled a bucket on the run, grabbing an old pair of trousers on the way. The wet trousers were effective but the fire spread faster. My pickup was threatened so I moved it. The fire gained. I ran for more water. The fire gained. I moved the pickup again. The fire gained. A gasoline can exploded and let my neighbor on the hill know there was a problem. My chain saw burned (magnesium), except for the chain, chain blade, and a few engine parts. The plywood lean-to camping shack burned.

My neighbor and his wife arrived. Together we extinguished the fire.

This is what I learned:

Before a fire is started,

- a.. have fire suppression equipment in place;
- b.. move everything of value to a safe distance;
- c.. make a fire lane around all buildings;
- d.. check humidity and wind conditions;
- e.. get a friend to help.

If the area to be burned is larger than a horse lot, hire a professional.

Dan Basham

Healthy Forests Act Now Law

HR 1904 - the Healthy Forests Restoration Act of 2003 - was signed by President Bush and became public law on December 3, 2003. The following is a summary of the directives of each title of this act.

Title I: Hazardous Fuels Reduction on Federal Land - Directs the National Forest Service and Bureau of Land Management to plan and conduct hazardous fuel reduction projects on specified types of Federal lands, including certain lands that contain threatened and endangered species habitat.

Title II: Biomass - Amends the Food, Agriculture, Conservation, and Trade Act of 1990 to: (1) accelerate adoption of biomass technologies; (2) create community based enterprises; and (3) establish small scale business enterprises to make use of biomass. Authorizes grants to persons that own or operate facilities that use biomass for wood-based products or other commercial purposes to offset the costs incurred to purchase biomass.

Title III: Watershed Forestry Assistance

Amends the Cooperative Forestry Assistance Act of 1978 to provide assistance to State foresters and State officials, or to Cooperative Extension officials at land grant colleges and universities and specified institutions, for the purpose of expanding State forest capacities and activities to address watershed issues on non-Federal forested lands and potentially forested lands. Directs the Secretary of Agriculture to: (1) develop a program of technical assistance to protect water quality; and (2) establish a watershed forestry cost-share program.

Title IV: Insect Infestations and Related Diseases - Establishes an accelerated program to plan, conduct, and promote comprehensive and systematic information gathering on forest-damaging insects and associated diseases.

Title V: Healthy Forests Reserve Program - Establishes the healthy forest reserve program within the Forest Service for the purpose of restoring and enhancing forest ecosystems to promote the recovery of threatened and endangered species as well as improve biodiversity and enhance carbon sequestration. Sets forth eligibility criteria for private lands for the program. Specifies that lands may be enrolled pursuant to: (1) a 10-year cost-share agreement; (2) a 30-year easement; or (3) a long-term easement with a buyback option. Provides safe harbor under the Endangered Species Act of 1973 to landowners who enroll land in the program when such enrollment will result in a net conservation benefit for listed, candidate, or other species.

Title VI: Miscellaneous - Directs the Secretary of Agriculture: (1) to carry out a program to inventory and monitor forest stands and potential forest stands in the National Forest System and (with consent of the owners) on private forest land; and (2) in carrying out such program, to address issues such as the early detection and assessment of environmental threats and to develop an early warning system for potential catastrophic environmental threats to forests.

Prescribed Burning in Texas –

Ernie Smith, Fuel Management Coordinator, Texas Forest Service

Prescribed burning is an excellent forest management tool for landowners with benefits such as: brush control, wildlife habitat improvement, hazard reduction, site preparation and relatively low cost per acre. The State Certified Prescribed Burn Manager program enacted several years ago and placed under the Texas Department of Agriculture, while a great program, has not yielded the hoped-for results of increasing the amount of burning done annually with a certified vendor force.

In order to be certified, a vendor must complete the required training course, have documented experience in burning and have proof of \$2 million of liability insurance coverage. By hiring a certified burn manager a landowner is released from the liability associated with an escaped fire. Unfortunately, there are currently no certified burn managers due to problems with the availability and affordability of liability insurance covering prescribed burning.

There is relief on the horizon with work currently underway by the USDA Risk Management Agency (Crop Insurance Agency). A national survey of prescribed burners is being conducted to establish a database showing that burning is a relatively safe practice (acres of burning done vs. damage done by escapes). Accurate actuarial information can then be formulated by the insurance industry and used as a basis for rating insurance for burn managers. While not an immediate solution this process should yield an increase in the availability and affordability of insurance for prescribed burn vendors. Landowners interested in having their land treated with a prescribed burn can do so with one of the vendors or Consulting Foresters that offer burning as a management service. You can find the complete list on the Texas Forest Service home page:

<http://txforests.service.tamu.edu>

Look under [Landowner Links](#) and find [Forest Services Vendor Database](#) and [Prescribed Fire Vendors](#). They are located across east Texas and each lists their services. Consulting Foresters who may offer prescribed burning as a service to their clients also may be found under: [Professional Management Service Referral List](#). If you do not have internet access, you can contact your local Texas Forest Service office for the information on vendors, Consulting Foresters, or prescribed burning.

Beaver and Nutria

*Linda Tschirhart-Hejl, Texas
Cooperative Extension – Wildlife
Services*

Beaver and nutria are two rodents that are very common in Texas. They may appear similar at a glance, but are actually very different creatures. Both of these aquatic animals can be found in streams, rivers, lakes, ponds, irrigation systems, and wetlands. They thrive in rural and urban areas and have even been found in city sewage treatment facilities. They are very abundant in Texas, yet often go unnoticed because of their nocturnal nature.

Beavers are brown in color and usually reach 3 ½ feet in length. The largest rodent in North America, the average adult beaver weighs approximately 45 pounds. They can weigh much more, with the record in Texas being just over 100 pounds. They have webbed hind feet and a flat tail that is used for maneuvering and as an alarm signal to other beavers when slapped on the surface of the water. They are mainly nocturnal, but may be active in the morning and evening hours.

Beavers produce a litter of one to six kits after a gestation period of about 128 days. The young are usually born in the spring, but may arrive any month of the year. Typically, the young will remain with the parents until about 18 months of age when they become sexually mature. At this point they will disperse to form new colonies. Beavers have a life span of about 10 years in the wild, but may live to 20 years or more in captivity.

Beavers live in lodges that they construct out of mud and sticks in open water. They also build lodges by burrowing into the banks of streams, rivers, lakes, and ponds. These lodges have underwater entrances that help protect beavers from predators. Beavers will often have more than one lodge in the body of water in which they live. As beavers travel from their dens to feeding areas they will swim the same path along the bottom of a pond or stream. Over time these underwater trails, called “runs”, will develop into depressions that are about a foot in width and often several feet deep. Beavers will also form smooth places called “slides” where they crawl in and out of the water onto the bank.

A beaver’s diet consists of a variety of vegetation. They feed primarily on grasses and the roots of aquatic plants. They also feed on the cambium, a nutrient rich inner layer beneath the bark of trees. This feeding behavior attracts the most attention, especially when entire trees are felled overnight. The beaver will remove the limbs of the trees and drag them into the water. This enables them to peel the bark off the limbs and twigs in the security of the water. Beavers will also stockpile the limbs of trees at the bottom of a lake or pond to use at a later date.

Water is a beaver’s lifeline and they will go to great lengths to secure and maintain a steady source of it. They use mud, grass, sticks, and any other material they can find to construct dams in creeks, streams, and drainages. Each inch of dam creates additional areas for the beavers to feed in and travel within the security provided by the water. Beavers will even

dam water control structures and spillways in lakes and ponds to increase the water available to them. The water management employed by beavers often creates great wetlands that provide a unique habitat for numerous other wildlife species.

Sometimes a beaver’s daily activities can cause extensive and costly damage. Their burrowing often weakens pond and lake dams. Over time, sections will erode and collapse and entire lakes can be lost. Burrowing can also undermine roadbeds and result in sections of road collapsing during periods of high water. Many counties in eastern Texas spend literally hundreds of thousands of dollars each year repairing and managing beaver damage to roadways and culverts. Flooding caused by beaver dams can destroy hundreds of acres of timber. Boat docks and piers can be damaged by the chewing done by beavers. Many urban and suburban areas adjacent to waterways suffer damage to ornamental trees and shrubs.

Managing beaver damage can be difficult and costly. Fencing culverts, drain pipes, and other structures may help prevent damage, but beavers will often simply incorporate the fence into their dam. Barriers of sheet metal or hardware cloth wrapped around individual trees will help prevent damage. The barriers should extend from the ground level to a height of about 4 feet. Electrical fencing may be employed in some situations to discourage the beavers from entering certain areas. A variety of trapping methods exist to manage beaver numbers. Beavers are classified as a fur-bearer, and individuals should refer to regulations set forth by the Texas Parks and Wildlife Department before trapping any beavers.

Nutria are another aquatic rodent common in Texas. They are brown in color and the average adult weighs 8 pounds. Nutria have a long round tail that may reach 16 inches in length. They have webs between the inner four toes of their hind feet, with the outer toes free.

One to 9 young are born after a gestation period of approximately 130 days. Nutria average three litters a year and reach sexual maturity at 4 months. The life span for a nutria is 2 years in the wild, but they can live up to 20 years in captivity. Nutria live in communities with up to 20 or more members that are usually related. They dig burrows in pond dams and river and stream banks.

Nutria are native to South America and were first brought to the United States in 1899. They were established in fur farms along the West and Gulf coasts in the 1930’s. They were greatly dispersed in the late 1940’s when they were sold as aquatic weed cutters.

Nutria are vegetarian and consume an average of 3 pounds of food a day. They feed on the succulent parts at the bases of plants, but will occasionally eat the entire plant. They prefer cattail, cord grass and reeds, but will also eat soft grasses and water plants. Nutria sometimes feed on cultivated crops in agricultural areas.

The presence of nutria in an area can result in severe and costly damage. Large populations of nutria have destroyed entire wetlands with their voracious eating habits and high reproductive rates. Their burrows often weaken pond dams and levees and eventually result in their collapse. They can

destroy ornamental plants and damage boat docks and other wooden structures near water.

Managing nutria damage can be accomplished through several approaches. Removing and trimming trees, weeds, and brush near the water will help to remove the food and cover needed by nutria. Grading of pond dams and drainage ditches to remove steep slopes will eliminate potential den sites. There are also a variety of trapping methods available for managing nutria numbers. Nutria are classified as a fur-bearer, so individuals interested in trapping them should consult the Texas Parks and Wildlife Department regulations first.

If you have any questions concerning beavers, nutria, or any other wildlife species you can contact Linda Tschirhart-Hejl, a wildlife biologist with Texas Cooperative Extension – Wildlife Services, at (979) 845-6201. You may also contact her at Linda.Tschirhart@aphis.usda.gov or visit their website at <http://twdms.tamu.edu>. She may also be contacted for a list of suppliers of traps.

I've heard various complaints over the years about beaver damage, so requested an expert do an article. (Funny, always thought the plural of beaver was beaver.)

At any rate, years ago we had a problem on a large project on the east side of Lake Ray Hubbard in Rockwall County. The 144 acre site had several ponds stair-stepped down the slope to Lake Ray Hubbard, all surrounded by trees. At the time, the buyers would sacrifice one of their kids for a big tree of any variety, and 1/2 acre lots were selling for \$50,000..

The beaver moved in and went to work, and I got the job of getting rid of them. Spent several nights laying up and shooting. Problem is you only get one shot and then wait an hour while the skeeters drill through your clothes. Got so good at being still I had to stomp my foot to keep one of the kits from taking a bite.

Finally got a Parks and Wildlife expert to show me how to use Conibear traps. These are instant neck breakers, and far more efficient and humane than shooting. Be warned, they will also break your leg or arm, even under water. I eliminated the beaver in about a week. Also experimented with various fur tanning recipes, but that's another story. Check the sources above for the relevant law and tips.
— Bill

Forest Taxation Tips –

USFS Tax Tips

Taxes are a major cost of doing business. Proper tax planning is just as important as the silvicultural techniques used to grow a profitable timber crop. Hence, to increase your revenues, you should be aware of the special income tax provisions that are available so that you can earn optimum income from your forestlands. Congress provides these favorable advantages and elections TO STIMULATE INCREASED PRODUCTIVITY from the nation's privately owned forestlands.

You should have a general knowledge of these provisions whether you prepare your taxes yourself, or have someone

else prepare your return for you. Most tax accountants are not familiar with all of the special provisions available for private forest landowners. The tax code is very complex and these special provisions are quite obscure. Hence, you need to be aware of them so that you can inform your tax accountant.

Here are a few special provisions that you should know in order to avoid paying unnecessary income taxes:

1. Landowners can claim a 10% reforestation tax credit and 7-year amortization for qualified reforestation expenses on the first \$10,000 invested in reforestation each year. This special advantage is available only to timber growers -- with only a few specified exceptions.
2. You must have a profit motive to claim business or investment expenses, but you do not have to have a profit three out of five consecutive years. An expanded definition for "profit" is particularly relevant to timber. "Profit" also includes appreciation in value of assets. Hence, timber growing meets the profit definition since it appreciates in value through physical growth and enhanced quality over time -- even though it may not be harvested for a period of many years.
3. Generally, you get the best tax treatment if you are "an active participant in the trade or business." The passive rules apply, but it is not difficult for you to meet these requirements if you so choose. However, you must report your business expenses in a consistent manner and dispose of your timber under the provisions of Section 631, i.e., you should not sell your timber "lump sum" (see website below).
4. You should maintain, and keep current, in your tax records IRS **Form T (Timber) Forest Activities Schedules**. You should also attach Form T schedules to your tax return when specified by the instructions included on this form.

Other Tax Information Available:

Forest Landowners Guide to the Federal Income Tax. Agric. Handbook 718, (157 pp.), is available for sale from U.S. Government Printing Office at (202) 512-1800. The price is \$21.00 (subject to change) per copy. Its GPO stock number is 001-000-04693-4. Or find it online at: <http://www.srs.fs.usda.gov/pubs/viewpub.jsp?index=2207> .

IRS publications and forms are available at: www.irs.gov .

National Timber Tax Site is located at: www.timbertax.org .

Sample Timber Sale Contract:
<http://www.southernregion.fs.fed.us/spf/documents/forest%20products%20sale%20agreement.pdf> .

Summary of Casualty Loss Provisions:
<http://www.southernregion.fs.fed.us/spf/documents/losssummary.pdf>.

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