



# Woodlands *for* Wildlife

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## Woodland Secret: A Tree's Age

By Arthur H. Westing, class of 1996

One of the most frequent questions I am asked when in the woods with others is the age of some large tree we happen to encounter. My answer is more often than not little more than an informed guess. Fortunately, this need not always be the case.

Thus, the date of planting might be known — for example, as is the case for several huge oaks growing on Mount Desert Island in Maine that were planted at the time of Abraham Lincoln's death. Then again, the maximum age of virtually all of the trees in our own woodlot cannot be older than about 80 years inasmuch as old timers around here remember that our property was all cleared and in agricultural use into the 1930s.

And, of course, once a tree is felled, the annual rings thus revealed on the surface of the stump can be counted to determine its age; or for a standing tree, tools are available that can extract a core out of the stem to permit counting of those rings.

In order to not make too wild a guess, it is also useful to know the generally maximum age our woodland trees can attain, assuming that fire, wind, lightning, or other calamity has not done them in earlier.

Thus, our early successional hardwoods only rarely last more than a century, in fact, usually dying within 60 to 80 years, including trembling aspen (*Populus tremuloides*), big-toothed aspen (*Populus grandidentata*), grey birch (*Betula populifolia*), and white birch (*Betula papyrifera*). Our mid- and late-successional hardwoods can hang in there considerably longer. To name a few, black (sweet)

*continued on page 3*



World renowned fern expert Dr. Murray Evans, left, shares information about fern identification during a field walk on the property of Coverts Cooperators Richard and Toni Hotchkin in Granville.

## Field Walks and Workshops Are Sponsored by Cooperators

Coverts Cooperators frequently sponsor field walks and workshops on their own land. The subjects include a wide variety of topics related to forest stewardship, wildlife and natural habitats. Most of these workshops are open to the public.

A July fern walk on the property of Cooperators Richard and Toni Hotchkin in Granville is a good example. The subject matter, ferns, can be a confusing one as the forest floor often provides evidence of many fern species with differing silhouettes and shapes of fern leaves, or fronds, arising from the underground stem.

Walking the woods with a field manual is a good idea. It is far more instructive to take this trip in the company of an expert.

Leading the July fern walk at the Hotchkins property was Dr. Murray Evans, a world renowned authority on ferns who has studied these plants on several continents.

Workshop participants were treated to a description and commentary on of a dozen ferns on the property. Some of the specie names are familiar: Christmas, Interrupted, Lady, Hayscented and New York ferns. Others may not be as well known: Bracken, Northern Beach, Intermediate Wood, Oak, Rattlesnake and Marginal Shield Fern.

Evans said one of his favorites is the Marginal Shield Fern, which is evergreen and stay a handsome dark blue green all winter.

*continued on page 2*



## Matting Ferns Inhibit Forest Regeneration

Woodland ferns add beauty to the forest as long as they do not create dense, impenetrable root mats and understory shade preventing forest regeneration.

Two common and potentially troublesome ferns in northern hardwood forests are Hayscented and New York Fern. Both spread rapidly, with Hayscented being the most aggressive, and can dominate the understory from tree trunk to tree trunk.

In the extreme dense shade of overlapping fern fronds, only a few seeds will germinate. Seed predation and seedling destruction also will be high because a fern colony provides safe habitat for rodents.

These ferns can proliferate after overstory removal, such as a woodlot thinning or natural disturbance. When the canopy is closed the ferns will be sparsely distributed and will not interfere with tree growth.

In one study (Marquis et al., 1992), it was determined that 70 percent of the area of a stand scheduled for harvest must be free of ferns for three to four years to insure adequate seedling development after a shelterwood cutting. In another study, (McCormick et al., 1997), fourth year results showed significant decreases in the survival of oak, ash and poplar bare root seedlings planted in a hay-scented fern community.

Hayscented and New York ferns often are found in northern hardwood habitat and both share a delicate appearance. The shape of the fronds is a distinguishing characteristic: Hayscented fronds are triangular in outline, broadest at the base; New York fronds taper to tiny leaflets at the base.

Methods to control fern populations are similar to those used to reduce the presence of invasive plants. Repeated mowing, close to the ground, will reduce fern abundance where mowing is possible. Large populations are easily controlled with herbicide where this option is appropriate and available.

### Field walks and workshops

*continued from page 1*

It quickly became apparent that fern identification required workshop participants to become familiar with a few botanical terms.

A fern frond is divided in leaflets, or pinnae, growing out of the stalk. Each pinna is subdivided into individual pinnules extending from the stem of the leaflet.

The size, number and shape of pinnules, Evans noted, is one key to fern identification. This information can be important in differentiating between fern species which look alike in many respects, such as the intermediate wood fern, mountain and march wood ferns.

Ferns do not have flowers or seeds and reproduce by means of spores, which are tiny, dustlike particles growing in struc-

tures called sporangia; a group of sporangia is called a sorus. The shape of the individual sorus, found on the underside of the leaflet, will be different depending on the species, Evans noted.

In the Marginal Shield Fern, the sori (plural of sorus) are found along the margin of the lobes of the leaf.

Online resources with information on ferns include <http://www.ontarioferns.com>, which has an extensive photographic collect for ferns species in various stages in the life cycle; the *Quick Guide to the Common Ferns of New England*, Connecticut Botanical Society, at <http://www.ct-botanical-society.org/docs/ferchart.html>; and *Common Ferns of Vermont*, which can be found at the Forest, Parks and Recreation website at <http://www.vt-fpr.org/pubpdfs/ferns.pdf>

## Network of Local Contact Cooperators Supports Coverts Education Programs

The July fern walk at the Hopkins' land is one of a number of education programs sponsored each year by Vermont Coverts Cooperators.

These efforts are initiated or coordinated by a network of what is known as Local Contact Cooperators, or LCCs. Currently there are 23 LCCs, representing 13 of the states 14 counties. At this stage in LCC development, only Grand Isle is without a Cooperator serving as an LCC.

Generally, there are two or more LCCs in a county, educated at the best schools, with each cooperator volunteering to serve staggered terms to ensure there always is some overlap in LCC membership.

A goal is for the LCCs in each county to organize four education events, woods walks or hands-on workshops annually, picking up on the interests of local cooperators. The goal is to provide information and promote land management for the benefit of wildlife, as well as to keep Cooperators connected with each other and the statewide Vermont Coverts organization.

Each of the volunteers serving as an LCC would appreciate hearing from Cooperators in their counties about program interests. LCC are always looking for Cooperators willing to serve a host for events on their land.

### Full LCC list on back page

See the back page for a list, by county, of LCCs and their contact information.

LCCs meet together twice a year at the spring and fall Cooperator Trainings to talk about programs. At the Fall Cooperator training, LCCs received training for visits to new landowners to present a "Welcome Bucket" program developed by Fish & Wildlife. The sap bucket contains gifts associated with Vermont and our state traditions, such as maple syrup, and information about various state agencies and organizations concerned with the well being of land, forests and wildlife.

Another topic on the LCC agenda was reviewing a handbook to guide Cooperator efforts in the various counties.

*continued on page 4*

birch (*Betula lenta*) usually survives for about 130 years, yellow birch (*Betula alleghaniensis*) for perhaps 200 years, and both red oak (*Quercus rubra*) and sugar maple (*Acer saccharum*) for a respectable 300 years or so. As to the maximum ages of our more common local conifers, white pine (*Pinus strobus*) and hemlock (*Tsuga canadensis*) can each make it through as many as 500 years.

Although the maximum height of trees is reached long before they finally die of old age, the stem continues to grow radially right to the end, albeit ever more slowly. Trees with twisted trunks (having spiral grain) tend to live to a riper age than straight-stemmed trees of the same species. Oddly enough, trees of any particular species growing under adverse conditions (for example, in poor soils, on exposed sites, in droughty regions, or at the limits of their normal range) will grow slowly and have poor form, but generally live longer than their larger and more merchantable brethren living under optimal conditions. And finally, to put all of our local trees to shame, the bristlecone pine (*Pinus aristata*) of the windswept mountains of southeastern California can attain mind-boggling ages in excess of 4,800 years.

[This story also appeared in *Woodlot Tips*, the newsletter of the Woodland Owners Association]

## Calendar of Events:

For information visit [www.vtcoverts.org](http://www.vtcoverts.org)

Books, articles and classroom instruction are useful tools for learning about woodlands and wildlife. However, it's a big mistake not to also take advantage of the many workshops and field trips sponsored by Coverts and other organizations throughout Vermont.

The goal is to improve your knowledge and your ability to see and interpret the evidence presented by the woodlands you navigate.

Visit the Coverts web site for information, and give some thought to friending Coverts on Facebook.

## Chip Mill Creates New Log Markets

The new Cersosimo Lumber Company chip mill in Vernon is processing about 50,000 tons of logs a year and providing new opportunities to landowners to gain income from logging jobs which include low grade wood.

As Dominic (Butch) Cersosimo, chairman of the board of Cersosimo, says: "It's a Vermont style chip mill; bigger mills in the New England region will process between 150,000 and 500,000 tons a year."

The benefit to landowners is to provide an alternative market for pulp logs — pine, hemlock, spruce — and low grade hardwood. The benefit to Cersosimo Lumber is to provide a market for almost all the low grade material that results from a logging job. An exception is logs with a long sweep or a corkscrew shape as they cannot be debarked easily or run through the automated processing

Markets for chips include pulp mills, which receive much of the output, pellet manufacturers and heating systems which use chips, such as high schools in Brattleboro and Whitingham.

From a landowners' perspective, selling logs for chips requires different math. Instead of payment based on 1,000 board feet of a tree species, the mill price is figured as dollars per ton. The Cersosimo mill price, delivered, is \$30 for a ton of hardwood, \$26 for hemlock and \$22 for pine.

The soft wood differential is based on a current premium for hemlock, which has longer fiber than pine, paid by a New York State paper mill.

As with all logging jobs, transportation costs to the mill (in addition to a loggers fee) are a significant factor in estimating income from a job that includes selling to a chip mill.

As a very rough estimate, a small log truck — one without a pony, or second trailer — will hold between seven and eight cords. The weight will be about 20

tons. So, for a truckload of low grade hardwood a landowner would receive somewhere in the neighborhood of \$600. Of this income, \$200 or so would be paid for the local hauling cost. The actual profit would depend upon the nature of the contract with the consulting forester and logger.

An option is to sell log lengths to a wood processor for maybe \$50 to \$60 a cord.

### *Logging income considerations*

While the economics for each job will vary, construction of a new chip mill is a welcome addition to the marketplace, and especially for logging jobs such as timber stand improvements where much of the output will be low grade hardwood or scrubby pine and hemlock.

The minimum diameter for logs accepted by the chip mill is 5 inches, with a minimum length of eight feet and a maximum of 24 feet.

The new chip mill is highly automated. Only two employees are required to run the machinery and the yard. Logs are carried along a conveyor system, powered by a 1,000 horsepower diesel engine, through a ring debarker and into a chipper which reduces logs up to 22 inches to diameter to chips in seconds. The debarking process is critical to meeting pulp specifications for paper making.

Chips then pass over screens to sift and separate output into correct sizes. The screening process is a key to making good chips as size is an important component in chip specification. There is one size for paper companies and pellet plants, another is called "overs" which are too large for paper mills, and a third category is known as "fines" which are close to sawdust and can be used as fuel.

The chip mill, which serves what can be termed an "emerging market," became operational in October of last year. In Vermont, where so many forests have been high graded over the years and restoration measures require cutting a great deal of low grade wood, chip mills are a welcome addition to the marketplace.



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**Network of local cooperators**

*continued from page 2*

**List of Coverts Local Contact Cooperators (LCCs)**

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