

The New York Forest Owner

A PUBLICATION OF THE NEW YORK FOREST OWNERS ASSOCIATION

May/June 2000



Volume 38 Number 3



FOUNDED 1963

**THE NEW YORK
FOREST OWNERS
ASSOCIATION**

Volume 38, Number 3

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**The New York
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The New York Forest Owner is a bi-monthly publication by The New York Forest Owners Association, P.O. Box 180, Fairport, N.Y. 14450. Materials submitted for publication should be sent to: Mary Beth Malmshemer, Editor, The New York Forest Owner, 134 Lincklaen Street, Cazenovia, New York 13035. Materials may also be e-mailed to mmalmshe@syr.edu. Articles, artwork and photos are invited and if requested, are returned after use. The deadline for submission for the July/August issue is June 1, 2000.

Please address all membership fees and change of address requests to P.O. Box 180, Fairport, N.Y. 14450. 1-800-836-3566. Cost of individual membership/subscription is \$20.

www.nyfoa.org

COVER: Education Camp on Pack Lake – location of the Fall 2000 NYFOA Meeting. Photo courtesy of Bruce Breitmeyer, SUNY College of Environmental Science and Forestry.

From The President

Under many circumstances, 40% would be considered a poor rating. But not when it comes to New York and the satellite video-conference on the Economic Aspects of Private Forest Stewardship. As this issue of the *Forest Owner* goes to press, twenty-two programs are scheduled in New York from Erie County to NYC—22 out of a total of 56 in all seven states! In this case, 40% ain't bad—it is fantastic!

Many of you have helped make possible the strong partnership between Cornell University, Cooperative Extension in several Northeast states,



and NYFOA to produce this excellent outreach program. Locally, County Cooperative Extension staff,

NYFOA members, DEC, and public and private foresters are hosting the program and leading discussions and woodswalks.

On behalf of the New York Tree Farm Committee, DEC's Jerry Andritz wrote a grant proposal and funds were received from the American Tree Farm System to provide a BMP Field Guide to each woodswalk participant, and Tree Farm door prizes. This truly has been a team effort. Thanks to you all. It wouldn't be happening without you!

Quite a different educational effort continues to unfold in the southwestern part of the state. In February, Jamestown Community College students in the Earth Awareness Club met with second graders to present an overview of deforestation and its affect on the environment. A subsequent *Jamestown Post Journal* article included sweeping quotes on clear-

cutting, loss of forests, and other points that several astute NYFOA observers immediately challenged by writing letters and op-ed articles to the paper.

Excellent columns setting the record straight appeared by Charlie Mowatt, member of NYFOA's Board of Directors; Bob Kochersberger, retired biology professor; and Al Brown, MFO and former president of SUNY Brockport. A balanced editorial followed.

We may be hearing more from Jamestown on this. In the meantime, I'm once again grateful for the dedication and motivation of those who speak up with the facts and explain the meaning of sound use of our natural resources. If we don't speak up, who will?

NYFOA's spring meeting in March was excellent, thanks to the efforts of Jim Minor and all who helped. Putting together a daylong program takes a lot of arranging.

During his talk, Penn State's Jim Finley suggested that we think of ourselves as "land-holders," instead of "landowners." Most NYFOA members would readily agree and could explain the finer meanings of "stewardship." Perhaps wider use of the term "land-holders" would help reach many of the folks we'd like to reach—those land-holders that would benefit from a greater understanding of the resources under their care.

Which brings me to mention the NYFOA Membership Recruitment contest. All chapter chairs have been notified of awards to the chapter with the greatest percentage growth during calendar 2000. The prizes—satisfaction in a job well done, pride in having introduced others to a source of forest management guidance, and \$200 from an anonymous donor. Don't be shy—go for it!

—Ron Pedersen
President

Join!

NYFOA is a not-for-profit group of NY State landowners

promoting stewardship of private forests. Stewardship puts into practice knowledge of forest ecosystems, silviculture, local economies, watersheds, wildlife, natural aesthetics and even law for the long term benefit of current and future generations. NYFOA, through its local chapters, provides this knowledge for landowners and the interested public.

Join NYFOA today and begin to receive the many benefits including: six issues of *The New York Forest Owner*, woodswalks, chapter meetings, and two statewide meetings for all members.

I/We would like to support good forestry and stewardship of New York's forest lands

I/We own _____ acres of woodland.

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NYFOA NEWS

Asian Longhorn Beetle

 The USDA has an informational web-site on the Asian Longhorned Beetle. It provides information on Federal Quarantine Areas, a Factsheet on the Asian Longhorned Beetle, Q&A's, Identifying the Asian Longhorned Beetle, Photographs of the Asian Longhorned Beetle, APHIS Pest Advisory Group Report, and a map depicting Introductions and Warehouse Detections of Longhorned Beetles from Cargo Originating in China. The web-site address is: <http://www.aphis.usda.gov:80/oa/alb/alb.html>

Ask the Forester

 We are slowly receiving inquiries to our "Ask the Forester" column, but would like

more. We would welcome questions pertaining to forestry and forest management issues from NYFOA members. Please submit any questions or suggestions to:
The New York Forest Owner
"Ask the Forester"
Column
134 Lincklaen Street
Cazenovia, NY 13035
e-mail:
mmalmshe@syr.edu



Debbie Gill, NYFOA Administrative Secretary, and her mother, Helen Marchant were an incredible help registering and welcoming members to the annual Spring Meeting. Thanks for all your help!

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NYFOA Scholarship Fund

As of April 1, 2000, the NYFOA Endowed Scholarship Fund that is administered by the SUNY ESF College Foundation, Inc. has a fund balance of \$22,189.60

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Timber Theft . . .

Escalating Across Rural New York

Getting an accurate assessment of trends in any type of property crime is difficult. Measuring timber theft, though, is especially hard when the logs are snatched from lands far from the beaten path—and buyers generally don't question the origin of the logs. Nevertheless, landowners report that timber theft is increasing to the point they must constantly patrol their property to guard against such crimes.

As the market value of many furniture-quality hardwood species soars with declining supply, timber thieves are exploiting increasingly sophisticated technology and deception to find, assess, harvest and market choice timber. Helicopters, small planes, global positioning systems, aerial photography and heavy equipment are now being used. Using county real property maps and other sources, sophisticated timber thieves identify non-resident landowners, a group very vulnerable to theft. A single tree on the stump can be worth anywhere from \$200-\$1000 at today's prices. A whole woodlot worth thousands of dollars can be selectively raided in half a day for shipment out of the area or even overseas.

New York is more vulnerable to timber theft than most other states since our forest owners have some of the finest hardwoods available anywhere on the planet, and the majority of forest holdings are relatively small, often kept for non-commercial purposes. Absentee owners, retired farmers with distant unused woodlots, and landowners who rarely enter their own woods are especially vulnerable to theft. State and county-owned forests have been raided, too, as conservation officers are too few to check every parcel and sheriff's deputies concentrate on

other kinds of personal and property crimes.

Unlike the Western states where most forest land is in public ownership, New York's forests are largely privately owned. There are about 450,000 private landowners in New York with 20 or more acres of timber each.

Since few rural towns have a timber harvesting ordinance or permitting system, which would enable code enforcement officers to check on registered harvests, no one is likely to question a harvest in progress until it is too late and the only evidence is a woodlot that looks like a tornado passed through. Traditionally, the legal system does not treat timber theft as a serious crime, either, so that even when thieves are caught, the punishment is light in relation to the value of the heist.

The dramatic rise in timber theft is starting to tip the scales against continued forest ownership and management for many landowners. When measured for investment purposes against stocks, bonds, business ventures or other kinds of real estate, forest ownership is extremely management intensive and far less steady in terms of earnings. The general health of the state's forests has declined, too, as invasive insect and fungal pests accidentally imported from abroad, having few native enemies, deplete—or even eliminate—economically important species like chestnut, beech, maple and eastern hemlock. The continuing diminishment of native species poses a powerful threat to the rural forest-based economy and insidiously changes the forest ecology.

Assessments of forest lands for tax purposes, especially downstate, go up even if no timber is sold, and even when a large theft has occurred

which removed most of the potential "capital gain." Rubbing salt in the wound, the landowner who has experienced timber theft and is enrolled in the state forest tax program must pay the 6% stumpage fee to local taxing authorities on the trees stolen. Forest owners worry enough about *legitimate* harvests—is the contractor doing his job "right" with respect to long-term harvest sustainability, careful road cuts, safe logging practices, etc. or is the logger leaving behind a destroyed, valueless woodlot, and even going on to neighbors' lands to harvest logs?

This past fall, several state and local agencies jointly hosted a Pulaski workshop on timber theft concerns and prevention. The New York Forest Owners Association and its 11 chapters play a lead role in heightening awareness of this issue. The situation seems to beg for greater awareness and action all-around.

Timber theft is accelerating fragmentation of forest lands into smaller and more dispersed parcels, especially in densely populated areas. Wildlife habitat consequently shrinks, as does the potential for regeneration of desired species. The proper husbandry of the forest resource which takes a hundred or more years to grow to maturity is neglected as well, tending to diminish the long-term viability of the state's forest products industry. If timber theft continues unabated, more forest owners than ever will sell their land for development purposes, rather than fight a losing battle with timber thieves. ▲

This article originally appeared in the November/December 1999 issue of "Rural Futures," the monthly publication of the NYS Legislative Commission on Rural Resources. It was reprinted with their permission.

ESF's Pack Forest

EDUCATION • FORESTRY • VACATION

MARY BINDER

Imagine you are walking through poor quality second growth, old agricultural fields and large areas of clearcutting. Now imagine only twenty years later standing among "one of the most productive timber properties in the Northeast," stated by Joseph S. Ilick, dean of the College of Forestry in 1947. That was the transformation of the 2,500 acres now known as the Charles Lathrop Pack Demonstration Forest.

Pack Demonstration Forest, located in the Adirondacks just north of Warrensburg, is the chosen site of the New York Forest Owners Association (NYFOA) Fall Meeting, scheduled for September 22-24, 2000. The meeting is co-hosted by the Southern Adirondack and Capital District Chapters and is billed as both an educational and vacation event. Co-sponsors are SUNY College of Environmental Science and Forestry, Cornell Cooperative Extension and the Department of Environmental Conservation. To fully appreciate your visit, some history of the Forest is provided.

Charles Lathrop Pack was the son of a Michigan lumber baron whose nickname was "Clearcut" Pack. He studied forestry in the Black Forests of Germany, where forestry first began its start as a science. Due to his forestry knowledge and skill, he was asked by President Theodore Roosevelt to be in the first Governors' Conference in 1908. Pack later became the president of the American Forestry Association for several years and then founded the American Tree Association in 1922.

He is credited with creating the idea of victory gardens while serving as president of the National War Garden Commission during World War I. After the war he sent tree seeds to Europe to reforest battle torn areas.

Closer to home, Pack worked to realize a dream of establishing a forest that would be managed for maximum potential and one that would be visited by the general public. In 1927, he purchased 2,170 acres in Warrensburg for such a purpose. Due to the fact that the state constitution forbade cutting of timber on state lands in the

Adirondacks, Pack made arrangements for the lands to be deeded to Syracuse University. The lands would be held in trust for the New York State College of Forestry, now known as SUNY College of Environmental Science and Forestry.

The College began work quickly. They brought in tree seedlings from Syracuse and started a nursery. They refurbished the existing Woodward Homestead, (see sidebar), to be used by forestry students. A visitor center and campground were also constructed. Old fields were planted with conifers, and the old, non-productive white pine stands and second growth timber were managed to maximize growth potential.

The Forest's sawmill, which was built in 1930, has produced as much as 250,000 board feet a year, with the lumber being sold to the local public or used in the construction of the buildings on the Forest. Pack Forest has also been used to train young forestry students, with an intensive field session introducing forest surveying, tree and

continued on page 7



Beautiful conifer trees line the entrance road at Pack Forest, Warrensburg, NY.



Equipment demonstration at Pack Forest sponsored by SUNY ESF and Cornell Cooperative Extension in the Fall 1998.

bird identification, wildlife management and forest inventory.

Use of the College's Pack Forest Camp facilities continues today with the Department of Environmental Conservation's Ecology Camp. The Camp gives students aged 15 to 17 years old the opportunity to learn more about the outdoors. Ongoing research projects such as acidic deposition studies and ecology field studies of wood turtles are now occurring. The College's multiple use management also allows public recreational use of the property. From the magnificent Grandmother's Tree Nature Trail, to hiking up Ben Wood Mountain, to fishing and canoeing—there is much to do at Pack Forest. 🌲

Mary Binder is the Chairperson of the CDC of NYFOA which is co-sponsoring the Fall NYFOA meeting. She would like to thank Bruce Breitmeyer of ESF's Huntington Forest for providing the historical information.

GRANDMOTHER'S TREE

One of the most beautiful and interesting sights at Pack Forest is Grandmother's Tree—a very large, old growth, white pine tree. The tree is now accessible by a newly constructed trail that allows the physically challenged to see this wondrous tree.

- ◆ The tree is named after Margaret Somerville Woodward, (Grandmother Woodward), who along with her husband Tom, settled the property in 1787. Tom had plans to cut down the tree to sell enough lumber to buy his wife a new set of dishes. Mrs. Woodward, being outraged, stated that the tree would be cut down over her dead body.
- ◆ The area surrounding Grandmother's Tree is a 47 acre natural growth area made up of hemlock and white pine.
- ◆ The tree is estimated to be over 315 years old.
- ◆ It stands 175 plus feet tall.
- ◆ It is forty-eight inches in diameter.
- ◆ The tree is listed on the New York State Historic Tree List.
- ◆ It is the tallest white pine in the state.
- ◆ The tree contains approximately 4,000 board feet of lumber, enough to build a small house.



SAC Winter outing at the Grandmother Tree this past winter.

Come and See the Tallest Tree!

Come to the Fall Meeting and see the tallest tree in New York State. Mark your calendars for September 22-24, 2000 for a visit to the Charles Lathrop Pack Demonstration Forest in the beautiful Adirondack Mountains. The Planning Committee has many events scheduled for young and old alike, as well as those new to forestry. There is outlet shopping that rivals Lee, MA, the Adirondack Balloon Festival is a short drive away, there will be a fireworks display in Lake George, or you can take a train from North Creek to Riparius.

There will be an excellent technical program for those who want to walk the forest and learn about white pine and northern hardwood management. There are several concurrent sessions tentatively scheduled. Those

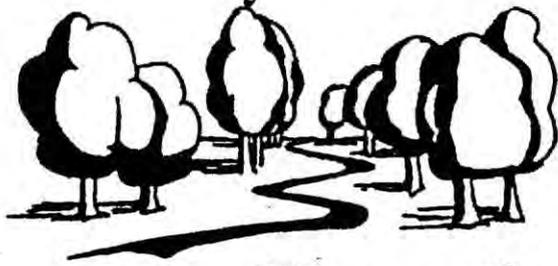
scheduled to present include: Dr. Doug Allen, SUNY ESF Professor of Entomology, who will talk about insects and pests; Bob Beyfuss, Cornell Cooperative Extension, will speak about mushroom and ginseng growing; Dick Sage, ESF Associate Director, Adirondack Ecological Center and a representative from the U.S. Forest Service will lead a woodwalk to discuss wildlife and forestry management; and Dick Schwab, Director, SUNY ESF Forest Properties, will speak about multiple use management of Pack Forest. We will visit Grandmother's Tree and a demonstration area that has many forest Best Management Practices installed.

Tentatively we have a pizza party ice breaker scheduled for those who want to arrive Friday night, with entertainment by Dick Nason and his "Old Time Logging Films" to follow.

Saturday will have a full slate of forestry activities, including bird and wildflower walks, tree identification, and a look at pond and stream life. We also hope to have activities for the children in the group. The program will culminate on Sunday with a variety of tour options including a visit to the woods of the 1993 Outstanding Tree Farmers (and this year's recipients of the NYFOA Outstanding Service award), Erwin and Polly Fullerton. This magnificent property is just north of Warrensburg, near Thurman, and the Fullertons have agreed to show us their man-made lake, woodlots and much more.

Look for the schedule and registration form in the next issue of the *Forest Owner* and check the website at www.NYFOA.org 🌲

Stand By



Your Stream™

Streamside Protection — Why Bother?

REBECCA L. SCHNEIDER

You own a creek, perhaps by accident, perhaps because you love to fish or want to have fun with your kids. The truth is, you own much more. The adjacent streamside is not only an integral part of the stream but a unique habitat in itself.

Most streamside, or *riparian zones*, have historically been cleared for agriculture, reinforced for railways, cleared for development, and only occasionally been left alone. They have been viewed as barriers preventing access to the greater excitement of the stream. Yet, an intact and healthy streamside habitat serves many critically important functions. It deserves protection and good management.

Riparian zone: the lands directly adjacent to a stream, creek or river which have a saturated groundwater table within 3 to 5 feet of the soil surface and/or which are periodically flooded aboveground.

Riparian zones vary dramatically in appearance from the thin fringe of eastern hemlock and birch trees bordering small headwater creeks, to meadows and willow thickets along a farm stream, to mile-wide richly forested floodplains associated with large rivers. The critical features of all

these streamside habitats are that the groundwater table is shallow enough to interact with the plant roots and that the plants are occasionally flooded aboveground when the stream is swollen by storms or snowmelt.

These conditions exert strong influences on the plants which live in the streamside. An amazing diversity of trees, shrubs and herbs have adapted to living in various portions of the riparian zone depending on the frequency and duration of flooding or soil saturation which they experience. The leaves, fruits, and root systems provide the basis for many of the benefits which streamside habitats provide.

Wildlife Value

- Vegetated streamside provide food, water, habitat and corridors for wildlife.
- Streamside vegetation provides a periodic source of organic litter and debris which are needed by stream inhabitants.
- Overhanging vegetation shades and cools the stream waters, making it more livable for aquatic organisms.

The highest diversity of wildlife in many northeastern landscapes is associated with the streamside. Deer and other terrestrial animals include

streamside into their home ranges as a source of water or as a safe corridor by which to bypass exposed fields and urban developments. Birds depend on the wealth of fruits from the rich plant community as well as insects and aquatic organisms as their food source. Birds and other animals rely on the streamside for nesting and protection. Streamside are also home for specialized species, such as water thrushes or star-nosed moles, river otters, and beavers which favor the combination of flowing water with adjacent vegetated land.

Riparian vegetation is also critically important to the organisms living within the stream itself. Every autumn, it provides a predictable and plentiful supply of leaf litter and debris as food for stream invertebrates and as fuel for the aquatic food web. Large fallen branches lodge within the stream, forming debris dams and hollowed-out pools for resting fish. Finally, overhanging vegetation shades and cools the stream waters, making it livable for fish and other organisms.

But wildlife resources are only one dimension of the benefits that streamside provide. These habitats perform other critical functions on which our society is dependent. These environmental services would be expensive to replace artificially.

Flood Control

- Plant foliage, stems and litter intercept storm waters, slow down water movement, and reduce the peak height and duration of floods downstream.

The first of these functions is natural flood control. Streams are dynamic systems. Water levels rise and drop daily with rainfall, seasonally with snowmelt and summer heat, and interannually with droughts and wet years. The streamside habitat is actually an extension of the stream itself and serves as the buffer area when stream *discharge* increases and the stream overflows its banks. The plants growing within the streamside are adapted to this periodic flooding

and the associated ground conditions. When flooding occurs, the plant stems, leaves and litter intercept the floodwaters, slowing them down and reducing the height and duration of floods downstream. Without such interception, the stormwaters rush straight downstream, increasing the height and duration of peak flooding.

Discharge: the volume of water passing through a cross-section of a stream and its entire channel in a given amount of time.

Filtering Mechanisms

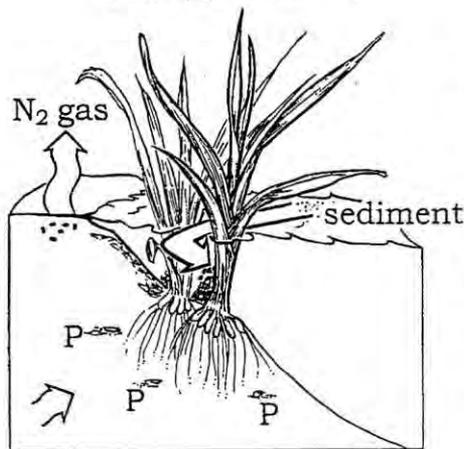


Figure 1

Sediment Trapping

Plants and litter reduce the load of suspended sediments in storm waters and runoff by slowing down the water and allowing the particles to settle out.

Streamside plant communities also improve water quality by trapping suspended sediments among the plant stems and litter (Fig. 1). The particles settle out of the slowed waters and are deposited in the riparian habitat. Most riparian plants, such as willows, sycamores, ashes and cottonwoods, must be adapted to deal with shifting substrates and can rapidly regrow root systems in the newly deposited sediment.

Erosion Control

Plant roots hold the soil of the streambank in place and prevent erosion.

Plant root systems are a main factor preventing bank erosion and further movement of suspended sediment downstream. The roots form a fine dense network throughout the soil, binding it together and resisting the erosive power of flowing water. Interestingly, the resultant resistance of the streambanks to erosion has direct feedbacks to the functioning of the larger stream network across the landscape. The sinuosity, or "wiggleness" of the stream channel is increased and this also helps to reduce the rapid flow of water downstream.

Groundwater Filtering

The soil-root-microbe environment of the riparian zone filters out nutrients, metals and other contaminants from water as it moves subsurface.

Streamside habitats are also critical in the improvement of water quality as it flows subsurface. As groundwater moves from surrounding upland areas into the adjacent streams, it passes through the root zone of the streamside plant community. Stream water also moves in and out of the riparian substrate as it intercepts meander bends or overflows the banks.

There are a number of mechanisms acting to filter out contaminants from these invisible flowing waters (see figure 1). Phosphorus, metals and other contaminants are "stuck," or absorbed, onto tiny pieces of organic matter within the soil. Bacteria and other microbes transform and break down many contaminants. Denitrification, in particular, is a process by which microbes transform nitrate, a common component of fertilizers and manure wastes, into nitrogen gas. The gas is lost to the atmosphere and the nitrogen cleaned from the groundwater. Finally, microbes and plants temporarily store nitrogen, phosphorus and other contaminants in their living tissues.

Streamside play a critical role in maintaining good health in our streams and in the adjoining terrestrial ecosystems. The interweaving network of streams and streamside are the blood-

stream which ties the landscape together. They are valuable habitats performing numerous functions which would be difficult to replace artificially. As such, they deserve protection and good management. ▲

Rebecca Schneider is an Assistant Professor in the Department of Natural Resources at Cornell University. Her expertise focuses on the interactions between plants and groundwater in wetlands, along lakeshores and streamsides.

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Short-Term Chronicle of a Tree Farm

A STRUGGLING FOREST LANDOWNER/CONSULTANT/TREE FARMER (A.K.A. PETER ZUBAL)

Summer 1992: Purchased 129 acres of land in the town of Sempronius, Cayuga Co. NY. Oh boy! I am at last a forest landowner.

Autumn 1992: Marked and sold timber on a single tree selection basis on 65 acres of northern hardwood, leaving the culls and pulpwood for future firewood sales. This helped pay for the property and to defray taxes. So far, so good.

Winter, early 1993: Timber was harvested and skid roads built to specifications. The snow was ungodly deep which helped to minimize skidding damage. So far, so good.

Summer 1993: Sold tops for firewood, realizing further income. So far, so good.

Winter 1993-1994: The firewood cutter flipped his tractor over backwards, in deep snow, but escaped any injury whatsoever, thank god for good fortune and a good contract. Whew!!!! So far so good. (He went broke before finishing).

Spring and Summer 1994: Mowed, cleared and grubbed stumps from approximately 9 acres of brush and berry bushes under the SIP program. Also stratified a bunch of acorns from local superior seed stock for future planting. So far, so good.

Winter 1994-1995: Ordered 500 red oak seedlings, 750 tube shelters, 750 weed mats and 750 1" x 1" white oak stakes to use for planting the red oak in the spring. Also 5,000 scotch pine seedlings for inter-planting to provide competition for the red oak. This was recommended to me by a fellow who has done this in the past, as the scotch pine is supposed to die out after a period of time. All of this under the SIP program, so far, so good.

Spring 1995: Personally planted 500 red oak seedlings by scalping an area approximately 2' x 2' and being very certain to plant and tamp properly. Installed the 500 tube shelters. My good wife, Linda, helped me on a very cold damp April weekend placing the weed mats. After about 3 hours, with both of us quite cold, she said to me "how long will these trees take to grow to harvestable size?" I replied, "about 100 years." She said, "why are we doing this?" My reply was, "as a legacy to future woodland owners." (My son is a forester and probably will manage this property for my four daughters and himself, hopefully passing the legacy to my grandchildren). So far, so good. Realizing

that I couldn't possibly plant the 5,000 scotch pine myself, I contracted to have this done.

Summer 1995: A very dry late spring and early summer took its toll on the scotch pine, with about 15% survival. Not so good. Mowed the entire #\$/%& area with my riding lawn mower. Difficult to see the scotch pine, but managed to destroy only about 20 or so. So far, so good. Except!! The forest tent caterpillar infested my hardwood stand, causing defoliation over about 40 of the 65 acres. I even found caterpillars in the tubes protecting the red oak. The black cherry re-foliated late in the summer, but the sugar maple did not. This caused some mortality in the intermediate and understory sugar maple trees.



Summer 1995: Found another firewood cutter who harvests on a ten standard cords per sale basis. All right!!! This takes care of the leftover tops and the standing culls.

Late summer 1995: A survey showed 95% survival on the red oak, with one individual even emerging from the 5' tall tube. I was ecstatic!!! So far, so good.

Spring 1996: Planted an additional 250 seedlings from my personal seedbed. On some of these I utilized weed mats

continued on page 11

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and on some just scalped the area prior to planting. Very little evidence of the scotch pine here. So far, so good.

Summer 1996: Mowed around the trees twice. So far, so good, but some of the plastic ties which hold the plastic tree shelters are breaking, causing the tubes to bend to the ground. I called the tree tube company and they acknowledged the problem and sent me new ties. I replaced the faulty ones. Was undertaking this project such a good idea?? The firewood cutter is still working. The forest tent caterpillar was back again, but the population crashed this year. Some additional mortality was observed, and a large number of sugar maple exhibited stress in reduced crown vigor. A side effect of the defoliation was 6-1/2 feet tall blackberry bushes in the defoliated areas. Some of these are still producing large, juicy berries. This was the only benefit of the defoliation.

Fall 1996: Very good survival of the 1996 planting of the red oak, about 90%. So far, so good.

Spring 1997: Everything ok so far, but some of the red oak aren't doing too well. The inter planting where the scotch pine failed will probably need to be re-done. More plastic ties are breaking. I will cope with this.

Summer 1997: Mowed twice again. I am getting so familiar with my red oak trees that I am learning the names of some of them. More firewood sold.

Fall 1997: Some of the white oak stakes are rotting and breaking off at ground level causing the tubes to fall to the ground—along with the seedlings, some of which break at ground level. Replaced these white oak stakes with fiberglass posts.

Spring 1998: Noticed that some of the red oak aren't growing too well. Mortality about 5% or so. Replanted these from my own seed bed. Also,

where the red oak have emerged from the tubes, the prevailing winds have caused the bark to rub off even though the tubes are flared at the top. I protected these trees with corrugated plastic electrical conduit. Getting a bit difficult to remain enthusiastic.

Summer 1998: Mowed twice again. Linda, Louis and Helen are doing quite well being about a foot out of the tubes. Doris, Kermit, Mark, Miriam and Adam are just peeking out. Kathryn, Rachael, Ford and Ted are almost to the top of the tubes, but Annemarie, Stephanie, Seth, Mitchell, Allison, Katelin and Benjamin are only halfway up the tubes. I will re-evaluate the status of these in 1999. Enthusiasm is flagging, but I will persevere. Firewood cutter still operating, doing about 10 acres per season.

Fall 1998: Although the tubes prevent the deer from browsing the red oak, a dominant buck decided to rub his antlers on about ten of the tubes, breaking the white oak stakes and in one case destroying a vigorous red oak (Louis). If only I can get him in my sights.

Spring 1999: Many of the white oak stakes are breaking off at ground level. Oh well! Such is the lot of the tree farmer. #\$\$@%& Keep on trying!

Summer 1999: Mowed twice again. Protected all of the emergent red oak with corrugated plastic protectors. Replaced all of the white oak stakes with fiberglass stakes. A lot of

work, but I love it! (I think). Decided to re-plant about 100 red oak which had not achieved knee high by 4 and 5 years of growth. Also ordered 2,000 Norway spruce to inter plant where the scotch pine failed. Spot sprayed with Roundup where I plan to plant the Norway spruce and red oak replacement trees. Thank goodness the firewood cutter is still operating with about 45 of the 65 acres of hardwood forest completed.

As I am writing this in mid-March, I am looking forward to receiving my nursery stock for planting. When I get discouraged by the trials and tribulations of being a forest landowner, I remember the following quote by Nelson Henderson. "The true meaning of life is to plant trees, under whose shade you do not expect to sit." 🌲

Peter W. Zupal of Moravia, NY is a Consultant Forester operating in Central New York and a member of the Cayuga Chapter of NYFOA.

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NYFOA AWARDS

HEIBERG MEMORIAL AWARD PRESENTED TO JAMES P. LASOIE



Bob Sand presents the Heiberg Award to James P. Lassoie

Each year the New York Forest Owners Association (NYFOA) presents the Heiberg Memorial Award to recognize outstanding contributions to forestry and conservation in New York State (NYS). The award memorializes Svend O. Heiberg, a renowned Professor of Silviculture at the NYS College of Forestry (now the SUNY College of Environmental Science and Forestry), who was responsible for proposing the establishment of a forest landowner association in New York State 38 years ago. With Hardy Shirley, Dean of Forestry, Professor Heiberg began the meetings that eventually organized NYFOA.

This year at its March 18th Annual Meeting, attended by many of his colleagues, friends and acquaintances, NYFOA presented the Heiberg Memorial Award to Dr. James P. Lassoie for his outstanding career in forestry. The award recognizes Dr. Lassoie for his outstanding leadership and dedication to excellence as administrator, educator, author, and lecturer.

Born in 1945 in Atascadero, CA, Jim graduated from the Woodrow Wilson High School in Tacoma, WA in 1963. He then received a B.S. (1968) and a Ph.D. (1975) from the College of Forest Resources at the University of Washington, Seattle. After completing his graduate degree Jim worked as a Research Assistant for Weyerhaeuser Company and completed a postdoctoral fellowship at the School of Forestry, Fisheries and Wildlife, University of Missouri, Columbia.

In September 1976, Jim became an Assistant Professor at Cornell University where he was responsible for developing a Cooperative Extension and research program in forest ecology and management. In 1984, he worked as a Visiting Associate Professor at the University of Washington, Seattle, developing continuing education courses and conducting research at Weyerhaeuser Research Center.

Upon returning to Cornell, he served as the Extension Leader for the Department of Natural Resources until January 1988 when he became Chair of that department, a position he held until assuming the directorship of the Cornell Center for the Environment in 1993. He returned to the Department of Natural Resources in 1996 to reassume responsibilities as Chair.

At Cornell, Dr. Lassoie's responsibilities include a major time commitment to Cooperative Extension, specifically to develop public education programs related to nonindustrial uses of private forestlands. He has written extensively about forestry, participated in many public information meetings covering such topics as woodland and wildlife ecology and management,

firewood production and use, forest land liability and taxation, and general conservation and land use. He has written over 100 extension publications and helped produce three educational films for which he received nine national awards. He co-edited a tree identification field manual entitled *Forest Trees of the Northeast* published in 1996 by Cornell Cooperative Extension. Jim has had seven articles published in *The New York Forest Owner*.

Lassoie is a veteran teacher, with experience spanning 29 years. He presently teaches three courses at Cornell, has served as major professor to 28 graduate students, and currently advises 13 others.

He holds membership in thirteen organizations, including the Society of American Foresters, the Nature Conservancy, the Wilderness Society and NYFOA, and has been cited with eighteen Awards from organizations including the National Science Foundation, Society of American Foresters, the NY Tree Farm Committee, American Association of Teacher Educators in Agriculture and a Superior Performance Award from Cooperative Extension in 1984.

NYFOA applauds the accomplishments of Jim Lassoie, a man whose distinguished career is filled with many contributions to forestry here in New York and worldwide. Congratulations Jim for an outstanding career in the field of forestry! 🌲

This article contains a portion of Robert M. Sand's Heiberg Memorial Award presentation to James P. Lassoie as chair of the 2000 NYFOA Awards Committee consisting of Jim Minor, Michael Greason and Don Wagner.

Heiberg Award Recipients

1967	David B. Cook
1968	Floyd Carlson
1969	Mike Demeree
1970	No Award
1971	Fred Winch, Jr.
1972	John Stock
1973	Robert M. Ford
1974	C. Eugene Farnsworth
1975	Alex Dickson
1976	Edward W. Littlefield
1977	Maurine Postley
1978	Ralph Nyland
1979	Fred C. Simmons
1980	Dr. William Harlow
1981	Curtis H. Bauer
1982	Neil B. Gutchess
1983	David W. Taber
1984	John W. Kelley
1985	Robert G. Potter
1986	Karen B. Richards
1987	Henry G. Williams
1988	Robert M. Sand
1989	Willard G. Ives
1990	Ross S. Whaley
1991	Robert S. Stegemann
1992	Bonnie & Don Colton
1993	Michael C. Greason
1994	Douglas C. Allen
1995	John C. Marchant
1996	Harriet & John Hamilton
1997	Vernon C. Hudson
1998	Peter S. Levatich
1999	James E. Coufal
2000	James P. Lassoie

Outstanding Service Award Recipients

1978	Emiel Palmer	1990	Earl Pfarner
1979	Ken Eberly	1991	Helen & John Marchant
1980	Helen Varian	1992	Richard J. Fox
1981	J. Lewis Dumond	1993	Wesley E. Suhr
1982	Lloyd Strombeck	1994	Alfred B. Signor
1983	Evelyn Stock	1995	Betty & Don Wagner
1984	Dorothy Wertheimer	1996	Betty Densmore
1985	David H. Hanaburgh	1997	Norman Richards
1986	A. W. Roberts, Jr.	1998	Charles P. Mowatt
1987	Howard O. Ward	1999	Eileen and Dale Schaefer
1988	Mary & Stuart McCarty	2000	Erwin and Polly Fullerton
1989	Alan R. Knight		

ERWIN AND POLLY FULLERTON RECEIVE NYFOA SERVICE AWARD

The twenty-third New York Forest Owners Association (NYFOA) Outstanding Service Award was presented to Erwin and Polly Fullerton at the 2000 Annual Meeting. The award, which recognizes outstanding service to the NYFOA membership, acknowledges the Fullerton's management skills on their forest property and their gifts of service over the years to NYFOA.

The Fullertons became members of NYFOA in 1990 when they were instrumental in organizing the Southeastern Adirondack Chapter (SAC). Polly became the first Treasurer of SAC and continues in that capacity to date. Erwin served as Chairperson from 1992-93 and was the Chapter representative on the NYFOA Board of Directors for the same time period.

The Fullertons are both native Vermonters and reside in South Woodstock, VT. Their first forestry project started in 1955 when Erwin and Polly planted scotch pine and white spruce on three acres near the Village of Hudson Falls, NY. With shearing and the passing of time the plantation produced quality Christmas trees which were sold both as a "Choose & Cut" and from a Homeyard Operation.

In 1967, they purchased a cut-over tract of 200 acres in the Town of Thurman, within the blue line, near Warrensburg, NY. Over the years, working with DEC foresters and SCS personnel, they completed Timber Stand Improvements (TSI) on 75 acres of land by chemical frilling and



The Fullertons accepting the Service Award from Jim Minor

later chain-saw girdling. Their first harvest was a pulpwood sale.

In 1977 they built a beautiful 8 acre pond on their property and after several attempts to introduce trout finally had success by stocking Large Mouth Bass. Near the pond Erwin built a cabin (along with a shop and machine shed) that has been a focal point to enjoy any time of year.

The Fullertons are NY Tree Farm members of the American Tree Farm System and received a Goodyear Award of Merit from the Warren County Soil & Water District in 1989 for excellence in skid road location, building and maintenance. Both Erwin and Polly are MFOs having attended the Master Forest Owner/Covert Program in 1992. In 1993 they received the New York State Outstanding Tree Farm Award and in 1994 were recognized as a finalist in the Northeastern Tree Farmer of the Year Award.

The Fullertons have manned publicity display boards for NYFOA and MFO at fairs and co-hosted meetings and Woodswalks at their 200 acre "Tree and Wildlife Farm."

The NYFOA membership sincerely appreciates Erwin and Polly Fullerton's contributions of time, talent and energy to our organization. Congratulations Erwin and Polly, and thank you for your service to NYFOA and New York State's forest landowners. 🌲

This article contains a portion of Jim Minor's presentation of the NYFOA Service Award to Erwin and Polly Fullerton. The NYFOA Awards Committee was chaired by Bob Sand and consisted of Jim Minor, Mike Greason and Don Wagner.

Ask the FORESTER



MICHAEL GREASON

The following questions were submitted from NYFOA member, Joe Hauck of Lebanon, NJ.

Question

My wife and I own about 170 wooded acres in Greene county. I've noticed that about 90% of the red maples have serious damage (i.e., rot, a serious healed over wound, etc.). Stand improvement would dictate that I cut them down although I would miss the fall colors. I've thought of a compromise. I intend to cut them down about 3 feet off the ground. The stumps will sprout prolifically giving the deer something to chew on (besides my oak, ash and sugar maple) and I will still get the fall color. As for the stumps hopefully they will not rot out too quickly and can be used to turn logs against when I have a timber cut. Is this a good idea?

Answer

It is always difficult to make silvicultural decisions without seeing first hand the trees in question; however, with that note of caution, you might consider cutting the red maples that display the most serious signs of defect. In cutting those, you will have a chance to see just how serious the rot problem is. I would also recommend cutting them close to the ground so that the stump sprouts would have a better chance of developing into good stems. Having higher stumps would increase the chance of defect in the sprouts. Red maple is no longer considered the weed tree that it was a couple of decades ago. Perhaps cutting the worst specimens will act as a thinning to increase vigor and culture potential saleable future sawlogs. I agree that red maple sprouts will provide good deer browse, and the better retained stems will provide the fall color.

Question

I have planted some walnut seedlings and have experienced some browse damage, however I've noticed that the trees I planted in slash that was left sticking up were left alone. I am beginning to wonder if the benefit of less deer browse damage outweighs the aesthetics of a neat site with the slash rotting quicker due to contact with the ground. It would probably generate slightly higher bids since it would save the logger time.

Answer

Personally I have never been a strong advocate of top lopping for the very reason you have noted. Logging slash provides protection for seedlings and cover for ruffed grouse and other wildlife. In Forest Preserve towns, state law dictates top lopping to a four inch stem diameter at four feet above the ground for fire prevention. Yet, I have never witnessed logging slash as a contributor to wildfires in the northeast in my three plus decades as a forester. Today, most loggers routinely lop tops, whether required in the harvesting contract or not, in order to have their jobs more aesthetically pleasing. My clients make the decision whether or not they want their tops lopped for aesthetics if they are not in a fire town or where required by local ordinance.

Question

In our mixed forest I noticed a number of larger white pines with girdling roots. I assumed that the rocky soil had turned them back toward the trunk. After cutting a few it became obvious (the aroma was a dead give away) that they were in fact the roots of black birch some of which were 10 to 15 feet or more away. While I know girdling is bad for a tree is there any beneficial aspect (less wind throw or symbiosis) to what I described or should girdling always be eliminated if possible?

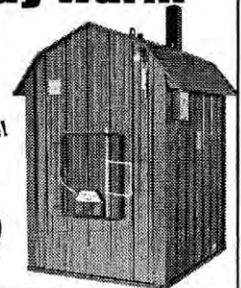
Answer

I do not know of any symbiosis related to intertwining of roots of trees of different species. Perhaps the black birch roots crossed the white pine roots when there was soil covering them. Possibly the site had been grazed by livestock after the trees had become established and the subsequent soil compaction and erosion has left those roots exposed over the pine roots. I can envision red clay soils overlaying shale on some of the easterly slopes of the Catskills that would have been pastured as agriculture waned on these sites and natural forest succession started which could lead to the situation described. The intertwining of roots may contribute to windfirmness on exposed sites where root depth is limited, but that would be a factor of tree spacing and natural root development, not a system established through an evolutionary process. ▲

Michael Greason is a Consulting Forester in Catskill, NY, a board member of NYFOA and a member of the CDC.

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Woodlot Calendar

May 6, 2000 (Saturday)

Workshop for forest owners at Hackley School in Tarrytown NY. Will cover landowner perspectives: natural resource enterprises, managing tax burdens, estate planning, and a panel discussion. Sponsored by LHC chapter of NYFOA, Catskill Forest Association, LHC Society of American Foresters and the Watershed Agricultural Council. For more info contact Gene McCardle at 914-945-0504.

May 24, 2000 (Wednesday)

Timber Theft Workshop. The Faculty of Forestry and Continuing Education Office at SUNY ESF are sponsoring a Timber Theft Workshop at the Main ESF Campus in Syracuse, NY. This one day workshop will provide an in-depth overview of the growing problem of timber security on the private and state forest lands. Demand for quality hardwoods is driving the price of both stumpage and logs prices to dramatic levels. Reports of timber theft appear to be associated with these increasing values. The workshop will focus on the prevention, discovery, investigation and prosecution of timber theft. For more information please contact René Germain at (315) 470-6698.

Saturday, June 3, 2000 (Saturday)

The Western Finger Lakes Chapter is sponsoring a tour of Dansville Logging and Lumber (2 miles south of Dansville on Route 36 on the right) at 10:00 am sharp! Guided tour will be approximately 2 hours. Bring your own safety glasses or goggles. Tour a modern circular saw mill and debarker operations; new planer molding, flooring and siding operations shop; and visit the new 100% wood building with showroom displays of several types of wood finishes on the floor and walls. A luncheon social get together is also planned following the tour at Stony Brook State Park. So pack your lunch and visit with other folks who have a common interest in wood and nature. For more information contact Joe LaBell at (716) 335-6677 or Harry Deiter at (716) 533-2085.

July 23-25, 2000 (Sunday - Tuesday)

NEW YORK STATE MAPLE TOUR 2000 will be hosted by the Northeastern New York Maple Producers Association on July 23-25, 2000.

Plans are underway for the New York State Maple Tour to be held in the scenic Adirondack and Lake Champlain region of New York. The tour will be hosted by the Northeastern New York Maple Producers Association in cooperation with Cornell Cooperative Extension and the Cornell Department of Natural Resources.

The tour will be headquartered at Lake Placid in the Olympic Region but will visit many area maple operations in the tri-county region of Clinton, Essex, and Franklin Counties. A portion of the tour will also take place at the Uihlein Sugar Maple Field Station of Cornell University located near Lake Placid.

Please mark the dates for this interesting and informative maple event. More information will be forthcoming. For questions please contact: Lewis J. Staats, at (518)523-9337 or via e-mail:

ljs20@cornell.edu or Beth Spaugh at (518) 561-7450 e-mail: eas9@cornell.edu

Also of interest to maple producers is the *Vermont Maplerama 2000* to be held July 27-29, 2000 in Orleans County with headquarters at Jay Peak Resort. The dates for the New York Maple Tour and Vermont Maplerama offer an opportunity and convenience for those who would like to take in both events with one day for travel between the two.

August 18-20, 2000 (Friday - Sunday)

NYS Woodsmen's Field Days. Aside from the usual slate of activities there will also be two days of workshops covering topics from logging to sawmilling. Call (315) 942-4593 for a full list of activities and workshop topics.

September 18-20, 2000 (Monday - Wednesday)

FRAGMENTATION 2000 -- A Conference on Sustaining Private Forests in the 21st Century will be held on September 18-20, 2000 in Annapolis, MD at the Radisson Hotel.

The conference will have three functions: (1) Sharing: Bringing diverse experts together to examine what we know about private forests of all sizes, ranging from small bits to mega-hunks; (2) Comparing: To identify areas of agreement, disagreement or just-don't-know situations regarding prospects for sustaining private forests in the 21st century; and (3) Reporting: Quickly assembling a proceedings that makes the conference papers and discussions widely available through as many communications channels as possible.

For more information contact Mike Jacobson, Assistant Professor/Extension Forester, Pennsylvania State University, School of Forest Resources, 7 Ferguson Building, University Park, PA. 16802 Phone: (814) 863-0401.

September 22-24, 2000 (Friday - Sunday)

NYFOA Fall Meeting planned. Charles Lathrop Pack Demonstration Forest, Warrensburg, NY. See page 6 for more information.

October 10-13, 2000 (Tuesday - Friday)

SUNY College of Environmental Science and Forestry is pleased to announce the Third *Biennial Conference: Short Rotation Woody Crops Operations Group* on October 10-13, 2000 in Syracuse, New York.

Join us for technical presentations and a field tour in New York's scenic Finger Lakes wine country. Hear the latest progress reports from researchers and practitioners. Examine woody energy crops, planting and harvesting equipment, wood-to-fuel processing equipment, and a wood/coal co-firing power plant. Please contact SUNY-ESF if interested in providing equipment displays or demonstrations.

For more information: Phone: (315) 470-6891 Fax: (315) 470-6890 Email: ce@esf.edu Webpage: www.esf.edu/willow

The Pitch Mass Borer

DOUGLAS C. ALLEN

I suspect many forest owners have seen large globs of pitch on the trunks of certain conifers, without recognizing them as evidence of insect damage. These white to yellowish masses of solid resin are most obvious when newly formed during the growing season (Fig. 1). Usually the pitch mass darkens with age.

The insect most commonly responsible for this activity in our region is called the pitch mass borer. It belongs to a group known as the clearwing moths; so called because, unlike a typical moth, adults have wings with distinct membranous (translucent) spots devoid of scales (Fig. 2). The moth's general body color is metallic blue-black with a conspicuous bright orange band on the abdomen (the posterior half of the body) and an orange "tuft" of scales at the tip of the abdomen. Its front wings have a metallic-green luster. Many clearwing moths resemble wasps.

Eggs appear during June through August, the time of year when adults are active. Single eggs are deposited adjacent to wounds or pruning scars, often immediately below branches.

The larval or **caterpillar** stage is bright white to off-white and approximately one inch long when full grown with reddish brown mouthparts (Fig. 3). Caterpillars feed on the inner bark near the sapwood. In the process of entering a tree and excavating the feeding gallery, they sever many resin canals. This damage causes copious amounts of resin (pitch) to flow out the gallery onto the bark. The **pupa** (a life stage where the caterpillar changes into an adult) forms in a cell beneath this covering of hardened pitch. When the pupal stage is completed, and immediately before moth emergence, the pupa wiggles its way to the outside of the pitch mass through a tunnel previously excavated by the caterpillar. It remains

partially concealed in the tunnel, which anchors it in place, and partially exposed to facilitate adult emergence.

Damage by this insect does not kill the host tree but can create serious defects in the wood as a result of pitch pockets and pitch-filled seams. Eventually, galleries (Fig. 4) beneath the bark and their associated resin deposits are overgrown and incorporated into the sapwood as the tree grows. These defects are not noticed until a damaged log is processed. From a sawtimber standpoint in the northeast, this defect is associated with white pine more than other species.

Most damage by pitch mass borer occurs to ornamentals and shade trees around homes or in parks. Unsightly masses of pitch three to four inches wide accumulate during summer, and eventually pitch may trickle down the stem and form long white streaks on the bark. In addition to white pine, **common hosts** include Norway spruce, blue spruce and Austrian pine.

Management recommendations for pitch mass borer are based more on common sense than controlled studies. On yard trees, for instance, the pitch mass can be removed easily and a stiff wire worked into the gallery. The intent is to "spear" the caterpillar. Removal of the insect will stop resin

continued on next page



Figure 1 Pitch mass (actual size 4" in diameter).



Figure 2 A clearwing moth (arrow indicates a wing spot devoid of scales).



Figure 3 Caterpillar of pitch mass borer.

flow and allow the gallery and damaged wood to heal. The life cycle requires two to three years; therefore, physical removal of the caterpillar is most effective (i.e., the injury heals more quickly) during the first year when the caterpillar is still relatively small.

Avoid physical injury to tree boles and prune trees properly to encourage rapid healing. For example, prune during the dormant season, do not

leave a stub and cut as close as possible to the bark ridge at the base of the branch without injuring the callus collar. ▲



Figure 4 Feeding gallery of pitch mass borer.

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This is the 50th in the series of articles contributed by Dr. Allen, Professor of Entomology at SUNY-ESF. Reprints of this and the complete series are available from NYFOA. It is also possible to download this collection from the DEC Web page at: <http://www.dec.state.ny.us/dlf/privland/forprot/health/nyfo/index.html>.

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Tree Value: A Basis for Woodland Management¹

GARY R. GOFF AND PETER J. SMALLIDGE

Although relatively few forest owners state that financial gain from sawtimber sales is the primary reason for owning forestland, virtually ALL private forests are harvested for sawtimber—sooner or later! Therefore, it is generally financially advantageous for forest owners to manage their stands for the eventual sale.

Typically, sawtimber management activities are quite compatible, even complementary, to other ownership objectives such as wildlife. Appropriate, timely silvicultural practices often will double the eventual sales revenue while simultaneously improving wildlife habitat, enhancing biodiversity AND promoting sustainable production.

The final goal of timber management is the harvest and sale of trees suitable for lumber or veneer. Harvesting and selling timber is the pay off for years of timber management or, at the very least, the culmination of decades of forest growth. It is important to plan and proceed carefully. It may be years before a forest recovers from improper harvesting practices.

Just as a brief exercise to help you gain some insight to relative value of different sawtimber species, take a moment to fill in the blanks on the following table. Let's assume each tree is part of a medium-sized sale and contains two 16-ft. logs. Price is for stumpage (the price a logger would pay for the tree as it stands on the stump, in the woods). Answers are at end of article.

What's that tree worth?

- 20-inch dbh* white pine.
\$ ___ sawtimber \$ ___ firewood
- 20-inch dbh black cherry
\$ ___ sawtimber \$ ___ firewood
- 20-inch dbh red maple
\$ ___ sawtimber \$ ___ firewood

*dbh = diameter breast height (4.5 ft. from the ground)

Stumpage value varies greatly by species. Several other variables greatly influence sawtimber values also such as quality of logs, size and volume of the sale, efficiency of the harvest, distance to mills, size of trees, limitations or conditions of the sale, etc. The NYS Dept. of Environmental Conservation publishes their "Stumpage Price Report" semi-annually. This report lists the most common and range of stumpage prices for several species by region throughout NYS. You may subscribe by contacting: NYSDEC, Div. Lands and Forests, Forest Products U & M Section, 50 Wolf Rd., NY 12233-4253. Ph. 518/457-7370.

When To Harvest

As soon as a tree has enough wood fiber to meet the costs of felling, limbing, bucking, skidding, loading, transporting, and processing, it has a positive dollar value to the forest owner and is merchantable. It is usually financially unwise to harvest trees as soon as they reach the minimum merchantable size, however, because they are not yet at their optimum value. Loggers will "come

calling" as soon as they see trees that will meet their expenses and provide an adequate profit margin for their work. Profits for forest owners increase greatly as the trees continue to grow from 12 to at least 18 inches dbh. Table 1 illustrates a number of important timber management considerations:

- At 12 to 14 inches DBH, hardwoods have a low value, but the rate at which they are increasing in value is high, especially for fast-growing trees with proper growing space.
- As a sugar maple tree increases in diameter from 14 to 24 inches, it may increase 33 percent in merchantable height, increase 4 times in volume (110 to 458 bd ft), and increase more than 10-fold in dollar value (\$44 to \$458). If the tree is of veneer quality, its value may be substantially more.
- At 14 to 18 inches DBH, hardwoods may nearly double in value for each 2 inches of growth in diameter as log grade improves with size and as height growth continues.

Table 1. Stumpage Value of Sugar Maple Trees Based on Size and Grade

DBH ^a (inches)	No. of 16-foot logs	Volume ^b (bd. ft.)	Grade ^c	Dollar value/ MBF ^d	Age of tree	Value/tree Firewood	Value/tree Sawtimber	Annual compound growth rate ^e
12	1.0	58	2 to 3	300	50	2	17	8.5% (1/10" Growth ring)
14	1.5	110	2 to 3	400	60	3	44	
16	1.5	146	2	500	70	5	73	
18	2.0	240	1 to 2	850	80	7	204	3% (1/10" growth ring)
20	2.0	305	1 to 2	850	90	9	259	
24	2.0	458	1	1,000	110	13	458	1.5% (1/12" growth ring)
28	2.0	635	1	1,000	134	17	635	

^aDiameter at breast height or 4 1/2 feet above ground. ^bInternational 1/4-inch rule.

^cGrade classification of butt log: 1 = highest value. These are typical grade changes with size.

^dBased on the quality of expected yield of one-inch lumber, 1998 NYS stumpage value.

^eDoes not include inflation, but quality sawtimber value generally matches or exceeds the inflation rate.

¹ Adapted from Cons. Circ. 19(4), 1981, by Robert Morrow, Dept. Nat. Res., Cornell Univ.

Table 2. Average age at which timber species reach financial maturity (24 inches DBH*) in managed stands on good sites.**

65-75 years	75-95 years	95-124 years	125 years or more
White pine	Black oak	Hemlock	White oak
Tulip poplar	Black cherry	Sugar maple	Chestnut oak
Red oak	White ash	Red maple	
Red pine	Basswood	Yellow birch	
		Hickory	
		Beech	

*DBH = diameter at breast height or 4 1/2 feet above ground.

**Growth rate may be one-third less in unmanaged stands.

- At a growth rate of 2 inches in diameter every 10 years (10 growth rings/inch), a tree will double in value in 10 years (a compound growth rate of 7 percent, not including inflation).
- At 20 to 24 inches DBH, hardwoods increase substantially on a dollar basis, but because the grade has peaked, the rate at which their value is increasing may slow to a compound growth rate of 3 percent or less. The increase in dollar value is mostly the result of the increase in volume.
- At 24 to 28 inches DBH, the dollar value continues to increase, but change in grade and height are unlikely. Also, growth in diameter is typically slower as the tree reaches biological maturity. These two factors could reduce the compound growth rate to 2 percent or less.

Table 1 illustrates the *potential* value of high-quality 14- to 20-inch crop trees. These trees are merchantable but definitely not "financially" mature. They are the true money makers in a woodland and therefore should not be harvested during this prime growth period unless they are crowded. Not all trees in a stand will show this kind of value growth. The majority of trees should, over time, be removed from the stand through thinning or timber stand improvement (TSI), thereby improving the growing conditions of the favored crop trees. Firewood is a good market for such trees. Note that because firewood trees do not improve in grade, their value is tied directly to volume growth only. Consequently, their annual compound value growth rate is only about 1.5%.

The timber value of individual trees regardless of species, logging costs, and

current market trends, is largely a function of the total amount of wood fiber they contain and the quality of their lumber or veneer. Log grade is determined by size (diameter and length), form, and the presence or absence of defects such as knots, ingrown bark, and worm holes. In general, as a tree increases in size, its logs increase in grade; as grade and size increase, so does value. Diseased trees, in contrast, may lose value and grade faster than they grow in volume. A timber harvest should therefore occur when the rate of tree growth and value have peaked.

Hardwoods such as sugar maple, on good sites, reach **financial maturity** (the age at which a tree is no longer increasing in value at an acceptable profitable rate) at about 20 to 24 inches; on poor sites it may be reached at 16 to 20 inches. As indicated in Table 2, the age at which trees reach financial maturity varies significantly depending on the species, site quality, damage from insect and disease attacks, and management. Many factors influence when financial maturity is reached. *Forest owners should work with a professional forester to determine the timing of harvests.*

The Influence of Trends and Inflation

No discussion about sawtimber stumpage values is complete without considering trends and inflation. Figure 1 shows the price trends (most common price) of three common sawtimber species over the decade from 1988 to 1998 in the Western Finger Lakes region of NYS. These figures were taken from the NYSDEC stumpage price

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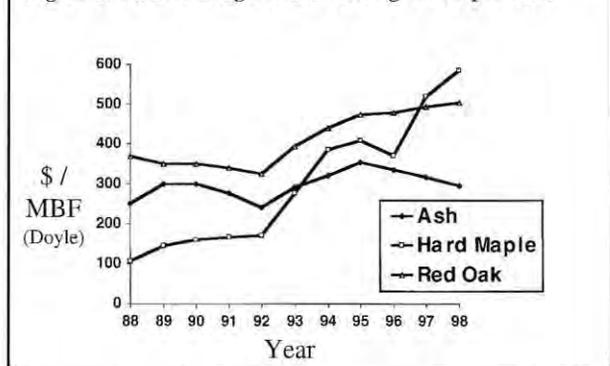
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report mentioned above. Prices and trends vary across NYS, so it behooves forest owners to become familiar with their region!

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Figure 1. Western Finger Lakes Average Price per MBF



Tree Value (Continued from page 19)

Sugar maple was the big winner over that time period, increasing in gross stumpage value by about 500% (a state-wide phenomenon). Red oak did reasonably well with an increase of about 33%. White ash increased only by 20%. When adjusted for inflation however (by subtracting the Consumer Price Index increase of about 38% over that time period), you can see that only sugar maple increased substantially. Red oak was essentially static and white ash lost about 18%. The bottom line is, however, stumpage value of quality hard woods generally keeps pace with inflation. Wood is a commodity item that is strongly tied to the general economy. Therefore the annual compound value growth rates given in Table 1 are not greatly influenced by inflation.

The authors of this article believe that demand for quality northern hardwoods (desirable species of high quality form) will continue to outpace supply. As such, the law of supply and demand should act to bolster stumpage prices into the foreseeable future.

Species values are influenced by consumer fads will continue to fluctuate however. Consequently it is prudent to build some flexibility into harvest schedules to take advantage of changing markets. If prices appear down, waiting 3 to 5 years may be a good idea. Remember, trees store very well on the stump, in fact they continue to grow!

Answers to opening quiz: A tree with 2, 16-ft. logs contains 233 board feet of lumber (Doyle log rule) or 1 standard cord of firewood. Current stumpage prices per 1000 b.ft. are about \$90, \$1080, and \$230 for pine, cherry, and red maple, respectively in Area C of the Winter 2000 NY Stumpage Price Guide. There is no market for conifer firewood, and hardwoods are worth about \$9/cord. Therefore, the above sawtimber trees are worth: pine-\$21, cherry-\$252, red maple-\$54. ▲

Gary R. Goff is MFO/COVERTS Program Director and Extension Associate, Cornell University, Dr. Peter Smallidge is the State Extension Forester, Cornell University.

Suggested Readings:

Timber Management for Small Woodlands -IB 180, by Gary Goff, James Lassoie, and Katherine Layer. 1984. (rev. 1995). Available for \$5.50 (include tax and \$1.00 shipping) from: Cornell Univ., Resource Center-MW, 7 Bus. & Tech. Park, Ithaca, NY 14850.

Stumpage Price Trends (1973 to 1996) for Reporting Area L: Clinton, Essex, and Franklin Counties, by Jeffery Prime. 1998. NY Forest Owner, Vol. 36, no. 2, pgs. 14-15.

Financial Maturity: A Guide to When Trees Should be Harvested -FNR 91, by W. L. Mills and John C. Callahan. 1981. Purdue Univ., Cooperative Extension Service, 1140 Agr. Admin. Bldg., West Lafayette, IN 47907.

Special Report: ECONOMICS. The American Tree Farmer. Vol. 3, no. 1. 1984. (entire issue devoted to financial considerations of sawtimber management). Am. Forest Foundation, Suite 780, 1111 19th St., NW, Washington, DC 20036.

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Forestry: 100 Years and Growing

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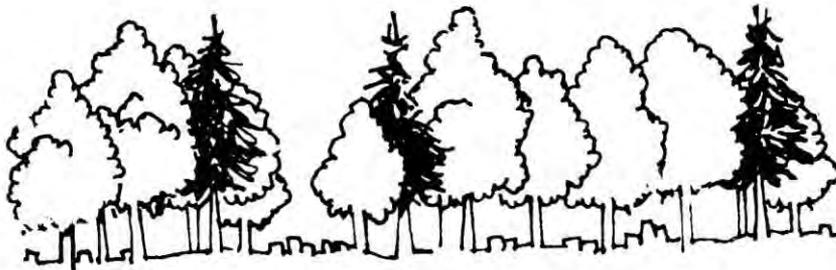
The new millennium also marks a century since the founding of the Society of American Foresters (SAF). In November 1900 six foresters met at the residence of Gifford Pinchot in Washington to found what is now the national society that guides, promotes and speaks for a profession of over 20,000 members. Although a country-wide inventory of forest resources did not exist, Pinchot had convinced himself and others, including President Roosevelt, that deplorable forest conditions presaged a timber famine. There was much evidence of such conditions: millions of acres of wildfires each year, millions of acres of cut-over, burned-over tree stumps, and the eager entrance of timber industries into the unexploited forests of the west and south.

Forests had a large part in converting a thinly populated wilderness into the world's leading industrial nation. Pinchot reasoned that timber was needed for the future as well as the past. He brought from the French forestry school few guides to action because the problems were different. Europeans use less wood for building than we do, and their damp northern woodlands seldom burn. Goats do not plague our landscapes as they have for centuries plagued those of the Mediterranean. The European problem was to convert sproutlands to timberlands; ours was to manage far more diverse and resilient forests.

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continued on page 22



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Forestry: 100 Years (con't from page 21)

Professional foresters and their organizations have had a decisive part in conserving and enhancing our forest heritage since 1900. They have done so because theirs is an environmental science whose practice has a sound research base in responding to human needs, for wilderness as well as wood. Yet the idea that forestry is tree butchery prevails and persists. For example, "I suppose," said to me a high-up in California's civil service, "that you, being a forester, want to cut down all redwoods and turn them into boards as fast as possible." The reference was to the Redwood National Park. Surely forestry merits better than such a boorish and un-called for sneer.

True, foresters are involved in growing and converting trees into the thousands of wood products that are needed, wanted and paid for, but their

interest and responsibilities are far wider than timber alone. In 1900 there was one school of forestry at Yale. Today, 70 accredited institutions offer training for careers in natural resources. Student numbers are nearly 30,000. The range of their interests and studies is as broad and deep as the Great Outdoors.

Those interests and studies include growing and harvesting trees for human welfare, a fact for which we need not apologize or cede environmental heroism to tree spikers, tree huggers, or sitters such as Butterfly Hill, who prevented the felling of a redwood by sitting in it for three years. 

Henry Kernan is a consulting forester in world forestry, a Master Forest Owner and a regular contributor to The New York Forest Owner.

MAGAZINE DEADLINE

Materials submitted for the July/August issue should be sent to Mary Beth Malmsheimer, Editor, *The New York Forest Owner*, 134 Lincklaen Street, Cazenovia, NY 13035 or via e-mail at mmalmshe@syr.edu Articles, artwork and photos are invited and if requested, are returned after use.



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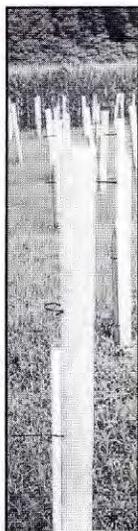
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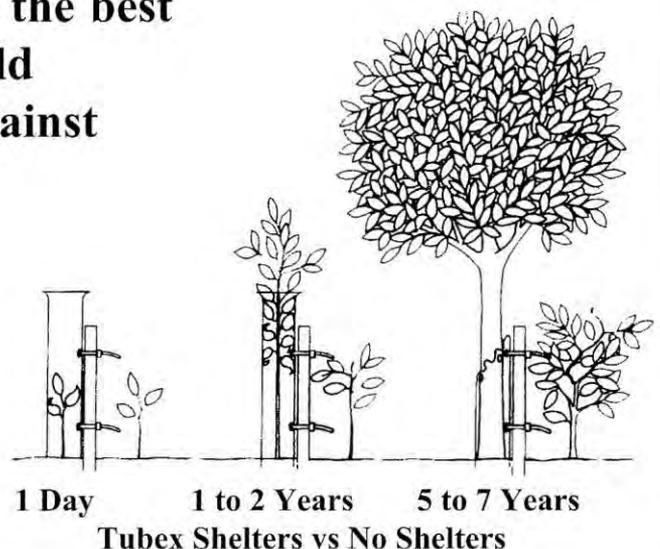
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