The New York Forest Owner

A Publication of The New York Forest Owners Association

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Invaders!

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In This Issue . . .

The New York
Forest Owner

A Publication of The New York Forest Owners Association

The New York Forest Owner is a bi-monthly publication of The New York Forest Owners Association, P.O. Box 541, Lima, N.Y 14485. Materials submitted for publication should be sent to: ***Mary Beth Malmsheimer****, 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 September/October issue is August 1, 2005.***

Please address all membership fees and change of address requests to P.O. Box 541, Lima, N.Y. 14485. 1-800-836-3566. Cost of family membership/subscription is $30.

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Cover: Image shows Garlic mustard, an herbaceous plant, dominating the understory of a sugar maple – white ash forest. For complete article on Invasive species see page 9. Photo courtesy of Peter Smallidge.

From The President

I recently helped a neighbor evaluate the long-term implications of property tax growth during a discussion of transferring forestland to the next generation. At an average annual growth rate of six percent the property tax burden will double every twelve years and grows to an unbelievable amount within 50 years. I used a six percent growth rate based on the rates I have experienced over the past ten years. Across New York State, for example, the average school taxes last year increased by eight percent. A one hundred acre parcel with a combined property tax bill

of $2000 in 2005, escalating at a rate of six percent, will have an annual tax bill of $32,000 in forty eight years. The six percent tax growth didn't consider any major shifts in assessment. Based on a number of calls I received in the last month, forestland in several towns was targeted for selective revaluation this year. This revaluation, often based on timber value, caused drastic increases in assessment and property taxes. The combined impact of property tax growth on forestland from rate increases and revaluation presents a major barrier to the sustainability of long term family forest ownership. If we want our children and grandchildren to have the opportunity to provide the stewardship for our family forestland we need major reform.

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The New York Forest Owners Association continues to evolve in an effort to provide the services required by the membership. In 1989 NYFOA took the first major step in this evolution process by appointing John Marchant as the association's first volunteer Executive Director. During the next six years under John's leadership NYFOA made tremendous progress. Our growth was reflected through increased state and national recognition as well as membership. Forestland owners saw the benefits of a more active association in the form of increased educational programs and visibility on state policy issues. In 2002 NYFOA took the next major step in hiring Dan Palm to be the first Executive Director to receive compensation. During Dan's tenure we have been able to attract funding from numerous sources to provide additional services to our members. Our ability to accept an administrative role in the FLEP Program, ensuring timely payments to landowners, is a direct result of our growth in professional capacity. During Dan's tenure we were also able to successfully promote the modification of 480A to provide state reimbursement to our local municipalities.

As we face challenges like the selective assessment of standing timber or new forest diseases and insects we recognize that the work of NYFOA is expanding. During our meeting at the Arnot Forest in early June the NYFOA Board of Directors concluded that we need to provide more support to our chapters, renew our focus on expanding membership and increase our policy efforts in Albany. To achieve these goals we have decided to increase the responsibilities and time commitment of our next Executive Director. This will be reflected in a five dollar increase in the cost of membership. I am confident that this small investment will help us be more effective in helping our members meet their objectives. We have started the search process for our next Executive Director. Please help us recruit candidates for this exciting position.

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Join!

NYFOA is a not-for-profit group of NY State landowners promoting stewardship of private forests for the benefit of current and future generations. Through local chapters and statewide activities, NYFOA helps woodland owners to become responsible stewards and interested publics to appreciate the importance of New York's forests.

Join NYFOA today and begin to receive its many benefits including: six issues of ***The New York Forest Owner***, woodswalks, chapter meetings, and two statewide meetings. Complete and mail this form:

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

( ) I/We own _____acres of woodland.
( ) I/We do not own woodland but support the Association's objectives.

Name: _____
Address: _____
City: _____
State/ Zip: _____
Telephone: _____
Email: _____
County of Residence: _____
County of Woodlot: _____
Referred by: _____

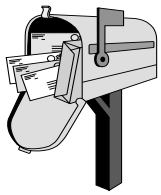
Regular Annual Dues:
( ) Student $10
(Please provide copy of student ID)
( ) Individual $25
( ) Family $30

Sustaining Memberships
(Includes NYFOA annual dues)
( ) Contributor $50-$99
( ) Sponsor $100-$249
( ) Benefactor $250-$499
( ) Steward $500 or more

For regular memberships, make check payable to **New York Forest Owners Association.** For sustaining NYFOA memberships, indicate if for individual or family and make check payable to **NYFOA.** Send the completed form to:

NYFOA
P.O. Box 541
Lima, New York 14485
1-800-836-3566
www.nyfoa.org

In The MAIL



Letters to the Editor are the opinions of the authors themselves and not necessarily of the New York Forest Owners Association. They may be sent to: The New York Forest Owner
134 Lincklaen Street, Cazenovia, NY 13035
or
via e-mail at mmalmshe@syr.edu

Great Article

The May/June 2005 article "Trends in New York Stumpage Prices" by Brian and Chapman contains excellent advice for woodland owners.

However, conversion from Doyle log rule stumpage prices to International 1/4 inch log rule stumpage prices cannot be done using a fixed divisor of 1.659. The table to the right, using a stumpage price of $1,000/mbf Doyle, trees with a merchantable height of two logs and application of the Mesavage-Girard Form Class 78 illustrates the point.

Though widely used in New York, the Doyle rule is teeming with inconsistencies. The rule can be considered a fair basis for transactions only when both buyers and sellers are fully aware of its deficiencies.

–Jim Pitt
Consulting Forester
Bath, NY

Diameter	Doyle Volume	International Volume	Doyle Value	International $/mbf	Variable Divisor
14	75	132	$ 75	568	1.760
18	164	233	164	704	1.421
22	295	368	295	802	1.247
26	459	528	459	870	1.150
30	658	718	658	917	1.091
34	894	934	894	957	1.045
38	1,170	1,186	1,170	986	1,014

From the President (continued)

Here are a couple of additional updates from our June Board of Directors meeting at the Arnot Forest. We had a great meeting and covered a wide range of topics.

Peter Smallidge, our State Extension Forester, will be serving as the Chair of our Forest Owner editorial committee for 2005. Please feel free to provide Peter with suggestions for topics or ways to improve this great publication. By sharing your questions and ideas you may help other landowners that are dealing with the same challenges you face.

Donations to NYFOA are now eligible for tax deduction as a result of our merger with the New York Woodland Stewards. Many of our members contribute funding to NYFOA above to the basic membership fee to provide additional support. NYFOA also accepts donations to a scholarship fund that we operate in partnership with SUNY-ESF. Please consider these opportunities when planning your charitable gifts for the year.

–Alan White
President

HOW TO: *Manage Vole Damage*

Voles are small, stocky, short-tailed rodents that can cause extensive damage in timber plantings. A study in British Columbia demonstrated that vole damage was the primary reason that over 40 percent of the plantations examined had inadequate restocking rates. Because voles eat a wide variety of vegetation and are attracted to areas with good cover and a variety of plants, the plant communities that develop within a few years after fire or logging are often highly productive vole habitats. In general, vole populations range from 20 to 35 animals per acre but may increase to over 1,000 animals per acre in high-quality habitats.

Recognizing Vole Damage

Vole damage is most common in fall and winter when other foods are limited and can be detected by looking for a combination of tree damage and above-ground runways. Voles build extensive burrow systems and above-ground runways between burrow openings. The runways are typically 1 to 2 inches wide and may contain droppings or plant clippings. Plants may be clipped close to the ground in areas around well-traveled runways.

Voles may damage trees both above and below the ground. The most obvious damage is to stems of trees where vole tooth marks will be at various angles and may have a whorled or circular appearance. Tooth marks will be about 1/8 inch wide, 3/8 inch long, and 1/16 inch or more deep. When clipping plants, voles leave a somewhat pointed tip at the end of the stem (rabbits and porcupines will leave an angular cut). Vole damage to tree roots may not be detected until the needles start turning brown. In these instances, it may not be possible to determine the cause of damage without pulling up the tree and examining the roots.

Managing Vole Damage

Habitat management strategies that reduce the amount of available food, increase the risk of predation, and minimize the attractiveness of the site for new immigrants is one of the most effective ways to handle vole problems. If possible, leave time for the population to decline in response to the reduction in vegetation before you plant. Reducing vegetation at the time of planting may leave the voles with little to eat other than your trees. In orchards, installing perching poles (1 per acre) and nest boxes (1 box per 10 acres) for predatory birds has been successful in increasing predation on voles.

Plowing or disking is ideal because it destroys vole food, cover, and burrows. Vegetation reduction with herbicides, fire, or mowing is also effective. If some vegetation is needed, spot treatments in which vegetation and plant litter is removed from around the base of the tree may be used. Spot treatments help keep burrowing activity away from your trees because voles are unlikely to dig in areas where they do not find food. Try to keep vegetation and debris at least 3 feet from the base of the tree. Cut the remaining vegetation short and remove plant litter to limit food and shelter.

Toxicants may also help quickly reduce vole population on sites where you cannot leave time between vegetation reduction and planting or where trees are already established. Remember that voles multiply rapidly in good habitat, so you will have the longest period of population reduction if you combine use of toxicants with vegetation management.

Zinc phosphide is the most common toxicant used to control voles in timber. However, it is not legal in all areas, so check with your local agriculture extension agent to determine product availability and licensing requirements. Using poison bait within two to three days of plant removal and conducting your baiting program during a season when voles are feeding on above-ground vegetation will improve your success. Keep bait dry and fresh, or the voles will reject it.

Planting larger seedlings will not reduce vole numbers or prevent them from eating trees, but larger plants are better able to withstand partial damage. Larger seedlings also spend less time in the size range that is most vulnerable to damage by small rodents. Still, voles have been known to completely girdle trees several inches in diameter.

Repellents and barriers usually will not stop vole damage. Voles can climb over and into most tree shelters, and wraps and barriers cannot prevent underground damage to roots. Similarly, repellents only protect the plant parts they touch and cannot protect root systems. Repellents that use bittering agents to prevent vole damage have not performed well in tests.

Remember to keep monitoring your site. Plant communities and vole populations can change relatively quickly. An effective damage management program may require periodic repetition of your treatments.

For more information, contact Kim Wagner, wildlife biologist, US Department of Agriculture at kimberly.k.wagner@usda.gov; or Ivan J. Fernandez, professor, Forest Soils Program, Department of Plant, Soil, and Environmental Sciences, University of Maine at ivanjf@maine.edu.

This article appeared in the September 2004 issue of "The Forestry Source" a publication of SAF. It is reprinted with their permission.

Ask A Professional

Landowner questions are addressed by foresters and other natural resources professionals. Landowners should be careful when interpreting answers and applying this general advice to their property because landowner objectives and property conditions will affect specific management options. When in doubt check with your regional DEC office or other service providers. Landowner are also encouraged to be active participants in Cornell Cooperative Extension and NYFOA programs to gain additional, often site-specific, answers to questions. To submit a question, email to Peter Smallidge at pjs23@cornell.edu with an explicit mention of "Ask a Professional." Additional reading on various topics is available at www.dnr.cornell.edu/ext/forestrypage

QUESTION:

I bought an old farm that has about twenty acres of woods and evidence of use as a sugarbush. There are some monstrous old sugar maples and some maple regeneration resulting in a fairly good abundance of younger 10" to 12" diameter trees. I would like to manage the woodlot to restore production to the sugarbush, a project I will use in retirement. I think some trees need to be culled and thinned. How should I proceed?

ANSWER:

There are many old farm woodlots with a history of maple syrup production and countless more acres where sugar maple dominates and could be put into annual syrup production. Your question is applicable to both cases. There are some well established principles, but the specific answers will depend on the details of your property. The specifics that will vary from your property to others include the length of time until you tap, your production goals at the outset, the current density of trees, health and vigor of the old trees, and the number of smaller trees.

Before going into the technical information, let me share some resources. First, the Cornell Maple Program includes a statewide network of Cornell University Cooperative Extension Educators who can help in many aspects of sugarbush management and know of specific educational resources. You can find a maple team member on the web at http://maple.dnr.cornell.edu Also, several DEC foresters and private sector foresters have experience managing sugarbushes. Find one who has this experience and invite them to your property.

What's the target?

All management activities have an objective or target. With sugarbush management a goal is to produce abundant sap with high sugar content. Trees that have large diameter crowns and a high percentage of the length of the tree's stem in live crown have better sap quantity and quality. These crown dimensions influence the annual production of new wood, the sap wood, and that influences sap quantity and quality. The quantity and quality of sap influenc-

A dense sugarbush can have a beautiful "cathedral" look, but high density has negative affects on tree growth and vigor.

es the efficiency and productivity of the operation. Weather will strongly influence what happens in any given year because of the need for freezing nights and sunny days to help the sap run.

Under ideal growing conditions, a sugar maple crown might be 50 - 60 feet in diameter and 80% of the stem height as live crown. In a forest, crown diameter and live crown ratio are half as much. Management in a forested sugarbush strives to increase crown dimensions while maintaining large healthy trees. Typically, competition among trees for sunlight limits crown growth. As trees get older and larger, our ability to influence crown dimensions and maybe to influence sap characteristics decline. We have our greatest influence with management on smaller trees. Thus, management to encourage and maintain full crown dimension should begin when trees are 6 to 10" in diameter. Starting management with smaller diameter trees will allow even greater control over crown dimensions. Allowing a sugarbush to stagnate and close into a dense canopy can have negative long-term impacts on future syrup production.

A variety of insects and diseases and reduce the strength of stems and may reduce sugar concentration. Trees with these conditions should be removed from the sugarbush.

Knowing Your Needs

The first step, as with all woodlot management tasks, is to know exactly what you want and when you want it. Then, you can determine if your resource can suit your objectives. If not, you can refine your objectives before beginning any activity. A forester can help you evaluate the compatibility of your needs and objectives with your resources.

Because the sugarbush in question is intended for use in retirement, it is important to know the timeline to retirement. While you may in fact need to thin the sugarbush, you want to make sure you retain enough trees to achieve your production goals at the time you retire. A five year horizon will mean retaining more of the old, presumably less thrifty trees. A twenty year horizon will give you a chance to favor the growth of the smaller and younger trees. With 20 years of ample sunlight on good soils, the 10 to 12" diameter trees could be several inches larger and very productive. Thus, with more time you might thin more aggressively in the older trees, but never too aggressively. You need to retain enough stems to produce the desired sap quantity for boiling.

Knowing Your Resource

The first step is to determine the current density of stems in the sugarbush because density will influence the sunlight available for growth. A dense sugarbush will have limited understory development, no brambles, and mortality of lower branches of the large trees. You can also use an increment borer to determine the radial growth rate (radial growth is one-half of diameter growth). You should try to minimally attain radial growth of at least 1/16" per year for an 18" diameter tree and 1/8" per year for a 10" diameter tree. Thus, your 18" tree is growing almost 2" in diameter per decade and your 10" tree is growing almost 4 inches per decade. These growth rates will allow you to follow maple syrup tapping guidelines and help ensure a vigorous tree. As you assess the density of stems, pay close attention to the presence of diseased or stressed trees, especially those which might fall or otherwise not be productive for sugar. Tree health matches tree density as important criteria to evaluate sugarbushes when planning for future production.

If the canopy is fully closed, then some trees are not getting adequate light and the growth of most trees is compromised. Competition for light will limit diameter growth and thus decrease sugar concentration which in turn reduces syrup production. You will want to thin down to a density of trees that retains good production per acre (number of taps) but that provides sufficient light to give ample growth of trees. The specific number of trees to retain depends on the size of the trees. Details of thinning regimes are beyond what can be discussed here. In general though, you would seldom want to remove more than ¼ to 1/3 of the basal area during any single harvest. In the first thinning of an unmanaged stand the "losers" are often easy to select. In managed stands, it becomes increasingly difficult to select trees for cutting if

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you have left the best trees each time.

Making the Cut

Once you decide that thinning is necessary, the process to select trees to remove from the canopy could follow one of two paths. Use area-wide thinning if your woodlot has a relatively high percentage of good growing stock[1]. Use crop tree management if the growing stock in your woodlot is relatively sparse and widely scattered. With area-wide thinning selection criteria for a sugarbush should focus on removing: (1) trees that are unhealthy, diseased or otherwise unlikely to survive more than ten years, (2) undesirable species and species of poor quality, (3) sugar maple with evidence of significant disease or insect damage, (4) sugar maple with mechanical defects such as broken crowns, and (5) crowded sugar maple with retention of those trees having the highest relative sugar content. With crop tree management, focus on reducing competition to sugar maples with stems that are free from insect and disease and that have vigorous crowns. You will want to remove competitors from at least two side of the crop tree to give the crown full freedom to grow. The goal is to provide at least 4 to 6 feet of space between adjacent crowns. Subsequent thinning should free additional sides of these crop trees. If you are trying to select between two otherwise equal trees, sugar content of the sap is a good tie breaker.

The quantity of syrup you wish to produce when you start will influence how aggressively you should thin. If you don't have specific production goals and there is reasonable stocking of the smaller stems, a more aggressive thinning of the larger trees would help ensure you maintain vigorous growth of the smaller stems.

The crown of a tree is the best predictor of sap sugar concentration and sap quantity. Open grown trees, or trees with ample sunlight will develop the best crown.

With either approach to thinning, you might want to retain some high value trees of other species if they are located on good soils and not competing with sugar maple that have good form and quality. You can culture these to become sawlogs and supplement future income. Your willingness to retain other species depends on the specifics of your objectives.

Do not necessarily try to make the sugarbush a pure stand of sugar maple. Most sugarbushes aren't big enough to impact the landscape or other ecosystem process if they are a monoculture. However, there is enough soil variation in most sugarbushes to allow some diversification that favors other species on thin dry or poorly drained areas. Sugar maple performs best on well drained productive soils. Other species will do better on wetter or dryer soils. The variety of trees will benefit a variety of wildlife, simplify the task of keeping your maples healthy, and improve the aesthetic of your sugarbush.

Final Thoughts

Use great caution in cutting the larger trees. It isn't the tree stem you are felling it is a large crown you are trying to squeeze down among your residual stems. Cut smaller diameter undesirable stems first to help open gaps to allow the larger crowns room to drop. Hone your skills in directional felling with Level I and II in Game of Logging.

Response prepared by Dr. Peter Smallidge, NYS Extension Forester with Cornell University, Department of Natural Resources. Peter works with the Cornell Maple Program and conducts research on sugarbush management. Contact Peter at pjs23@cornell.edu or 607/255 4696.

[1] See article on this subject by Dr. Chris Nowak in the Forest Owner issue 43:1, the January/February 2005 issue.

Invaders!

Shavonne Sargent

We call them pests, non-natives, invasives, introduced species or weeds. They cause blights, defoliate thousands of acres, displace existing flora, accelerate mortality and otherwise challenge our native species. They arrived here from far away. They were brought to solve problems, add beauty or bring profit. Sometimes they came by accident stowed away in boxes, attached to transport vehicles, or embedded in organic matter. They have come one after another over many hundreds of years, their numbers increasing to thousands. What are these strange and unwelcome things? They are a threat to our native forests, but there are ways to combat them.

Many of the invasive species we face today have been intentionally or accidentally introduced from other countries. However, would you believe that only a small percentage of non-native species ever become pests? We can be thankful that our ecosystem has some capacity to adapt to or develop competitors and predators for many, if not most of these non-native species.

Occasionally, a non-native species will become a problem. It is in these cases, the species of our ecosystems are not adapted to the non-natives, and no natural competitors exist. Then, the invaders can freely reproduce and spread, reeking havoc throughout our forests. When the non-native species begin to cause harm to or out-compete native species that they become invasive. It seems like the list of problem species is growing at doomsday speed. Most people have heard of the common ones – gypsy moth caterpillars, Dutch elm disease, garlic mustard, and barberry, but there are dozens more. The threats range from defoliators to borers to fungus to pretty plants. Their impacts can be localized (few trees or a localized geographic area) or widespread (causing death to large numbers of trees over a large geographic area). Interestingly, some native pests often pose a similar threat to the forests. Not all invasive species are non-natives.

Triple-whammy! Garlic mustard, tree-of-heaven, and Amur honeysuckle invade a cherry-maple stand.

The threat is real, but we need not raise the white flag to these destructive species. There are some steps that land owners can take to help reduce the effects of invasives. The first step is to get educated. Conduct some independent research on the invasive species that are a threat in your area. Look for workshops, bulletins or announcements about these species. Second, watch your own trees and woodlots carefully for signs of stress, defoliation, boring, damage, or invasion. If you notice a problem, try to determine its cause; it may or may not be related to an invasive species.

Third, be cautious when transporting organic material to new locations. Invasive species can be and often are

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spread by hitching a ride in firewood, soil, or plant matter.

Fourth, you should plant and maintain a diversity of species, ages, and ecosystem functions within your forest. A variety of species and ages will provide diversity that will be less inviting to species- or age-specific invaders. Also, having the diversity of species and ages provides a variety of ecosystem functions that maintains a wider range of tree genetics, wildlife and forest structure that will help protect against invasive species.

If the problem in your forest may become severe or widespread, it may be necessary to take aggressive action. A number of options exist, but check first with your local office of Cornell Cooperative Extension for options, advantages, and disadvantages. When done properly the benefits of an early treatment to reduce or eliminate damage can outweigh the costs (financial, ecosystem, and aesthetic) that would otherwise be caused by damage to your forest.

Invasive species are a threat to the health and vigor of our native trees and forests. Learning about the specific threats and taking steps towards prevention and control are the first line of defense in maintaining the trees and forest communities of New York State.

You can review species, their specific threat, and methods of control and prevention at *http://www.invasivespecies.gov/* and *http://www.dec.state.ny.us/website/dlf/privland/forprot/health/nyfo/index.html*

Garlic mustard, an herbaceous plant, dominates the understory of a sugar maple – white ash forest.

Shavonne Sargent, Forest Resources Extension Program Assistant, Cornell University, Department of Natural Resources, Ithaca, NY 14853. *This article is produced as a joint venture of Cornell and NYFOA to help landowners and the public enjoy the full benefits of forest resources. Additional articles on a range of topics are available through your local office of Cornell University Cooperative Extension or at www.dnr.cornell.edu/ext/forestrypage*

NYWS/NYFOA MERGER COMPLETED

On April 18, 2005 the merger documents approved and signed by the New York Supreme Court were filed with the New York Department of State making the merger official. On April 29, 2005 an Amendment to the Certificate of Incorporation was filed with the Department of State. This document changed the name of the merged organization to New York Forest Owners Association (NYFOA). Thus, there is now just one organization, NYFOA. Which has 501(c)3 tax exempt status. This was our goal and we have succeeded in achieving it.

Many thanks are extended to the members of NYFOA, the Chapters and the Board of Directors of both NYWS and NYFOA for their support and patience during this lengthy process.

All checks for memberships and donations should now be made out to NYFOA.

Position Announcement

EXECUTIVE DIRECTOR
New York Forest Owners Association (NYFOA)

Non-profit organization seeks part-time executive director to provide administrative support to the Board of Directors and Board committees, provide support to ten NYFOA chapters, manage membership growth and outreach activities, obtain and administer grants and administer public policy initiatives. Executive Director reports to the President of the NYFOA Board of Directors.

NYFOA, a statewide not-for-profit membership corporation, promotes sustainable woodland practices and improved stewardship of privately owned woodlands. Many of its educational programs are conducted by volunteers in 10 regional chapters.

Applicant must have strong communication skills; ability to assist in the leadership of the organization, work with volunteers, and raise funds; and experience in planning and executing successful action programs. The applicant should be comfortable networking among persons with a range of views, educational levels, and positions and must be willing to market and promote the organization. Familiarity with natural resource issues, organizations and action programs is desirable.

Successful applicant will have a contractual relationship with NYFOA, providing own office space, computer and communication devices. Contract compensation up to $35,000 annually. Separate arrangements for reimbursement of travel and other expenses will be negotiated with the contract. Flexible work schedule.

Direct requests for additional information to Daniel Palm, Executive Director at 607-538-1305 or sunnyhill645@usadatanet.net. Send application letter and resume to NYFOA Personnel Committee, P.O. Box 541, Lima, New York 14485 by August 6, 2005.

WANTED: Forest Owner Volunteers

Cornell Cooperative Extension is looking for a few good forest owner volunteers to meet and work with their neighbors. The NY Master Forest Owner/COVERTS Volunteer Program is entering its 15th year with a new volunteer training scheduled for this September. Volunteers who complete the 4-day workshop will join the corps of 225 certified volunteers across the state.

September 14 – 18, 2005
Cornell University's Arnot Teaching and Research Forest
VanEtten, NY (south of Ithaca in Schuyler Co.)
Applications due by Aug. 22, 2005

Volunteers can commute daily, or accommodations are available free at the Arnot's rustic cabins. There is a $50 fee that helps defray lodging, publications, food, and equipment costs. The workshop combines classroom and outdoor field experiences on a wide variety of subjects including; tree identification, finding boundaries, forest ecology, wildlife and sawtimber management, communication techniques, timber harvesting, and a visit to a nearby sawmill.

The goal of the MFO/COVERTS Program is to provide private forest owners with the information and encouragement necessary to manage their forests to enhance ownership satisfaction. MFOs do not perform management activities nor give professional advice. Rather, they meet with forest owners to listen to their concerns and questions, and offer advice as to sources of assistance based on their training and personal experience.

If you are interested in obtaining an information packet and application form, please send your name and address to:

Diana Bryant, 108 Fernow Hall, Cornell University, Ithaca, NY 1485. Phone: 607-255-2115, FAX: 607-255-2815, E-mail: dlt5@cornell.edu

More information regarding the MFO/COVERTS Program and an application form is also available on our website at: **www.dnr.cornell.edu/ext/mfo**

Sponsors: The Ruffed Grouse Societe, NY Forest Owners Association, The National Wild Turkey Federation, NYS-DEC Div. of Lands & Forests, The Robert H. Wentorf, Jr. Foundation, USDA Renewable Resources Extension Program, and Cornell Cooperative Extension

Pond Management
Control of Aquatic Weeds

Rebecca Schneider

Ponds and lakes are a source of great fun for fishing, boating and swimming. Farm ponds are also useful for watering livestock and collecting runoff from fields and outbuildings. Unfortunately, the plants associated with shoreline and pond bottoms are too often lumped together, summarized as "weeds" and eradicated. However, not all plants are weeds. Aquatic plants are an interesting and diverse part of all pond and lake systems. They provide a wealth of important services. Therefore it is important to distinguish between perceived and real problems with aquatic plants.

Aquatic plants include an incredibly diverse array of types and species. These plants can be broadly organized into several different groups based on whether they are a) algae or vascular plants which have true roots and stems and leaves, and b) whether their leaves and roots occur in the water column or sediment. *Phytoplankton* are microscopic, single-celled algae that float in the water column. When in high densities, phytoplankton give water a translucent greenish color. *Duckweed* is the common name for a suite of tiny plants whose leaves float on the water surface and whose tiny roots drift in the water below. *Filamentous algae* have no true roots or leaves but also can form thick mats on the water surface.

There are also numerous plants who are rooted in the substrate. *Submersed* plants, such as elodea and Eurasian milfoil, have all of their leaves below the water surface and most have flexible leaves and stems. *Emergent species*, like cattails, are more rigid so that there foliage can protrude above the surface even as water levels go up and down. *Floating leaf plants*, which include most of the attractive water lilies, have their leaves on the surface but are rooted in the sediments.

These diverse groups of plants perform an amazing number of jobs that are important both to the health of the pond or lake and to humans who use them. Good management of aquatic plants is important to make sure that these jobs are achieved.

- Plant stems and leaves provide protective nursery areas for young fish.
- Plant leaves shade and cool the bottom of the lake.
- Plant stems and leaves provide food and habitat for aquatic insects which are a primary source of food for all fish.
- Plant leaves put oxygen into the water column where it is used by fish and other organisms.
- Plant stems and leaves rock gently back and forth, absorbing wave energy and reducing shoreline erosion.
- Plant roots bind the sediment and filter out contaminants from groundwater.

Given all these functions, when is an aquatic plant a weed? Sometimes plants are just perceived as a problem because they get in the way of a landowner who is trying to access the lake for boating or swimming or if the plants along the shoreline impede the view of the water. Plants really become a problem when excessive growth clogs out all other species. This may be the spread of duckweed across the surface of the entire pond which shades out and kills all submersed species or the invasive spread of an exotic species which outcompetes many native submersed plants.

What causes this growth? The abundance, types and species of aquatic plants are controlled by a complex suite of factors. The two main factors appear to be the availability of light and the availability of nutrients. These nutrients can be directly dissolved in the water column or available in the sediments or along groundwater seepage areas. Secondarily, fish, waterfowl and other animals will eat many plant species, often to the point of controlling their abundance and the success of competing plants. Excessive wave action along some shorelines can severely impact the ability of plants to get established and grow. Finally, some plants are absent from a lake simply because there has been no opportunity for their seeds or vegetative propagules to get transported there.

If you decide you need to manage aquatic plants in your pond or lake, it should be a careful, thoughtful choice. Three key steps are needed before choosing which is the appropriate management strategy**. The first step is to clearly define your overall goals for the lake or pond**. Are you managing for fishing and recreation? Do you need the pond for livestock and farm runoff? Is the lake also a source of drinking water? Is your goal to provide access to the lake for boats or swimming?

Next, it is very important to **accurately identify what type and species of plants are present**. Some are problems, others are not. Different

management strategies work for different plants. Some exotic weeds have native counterparts which are very similar in appearance. Ask representatives from the Soil and Water Conservation District, Natural Resource Conservation Service, or Cornell Cooperative Extension to help identify your plants.

There are a variety of management strategies available. You need to **consider the following criteria** when selecting the most appropriate management strategy for your lake:

- *size of the lake or pond*: large lakes require considerably more resources than smaller systems;
- *residence time of water*: the rate at which water moves through the system is crucial to the success of some herbicides since they may be flushed out before they can do their job;
- *species of plants present* - both target plants and others: methods such as grass carp or insect control may be very species specific
- *spatial extent of the problem plant;*
- *side effects to animals and water quality*: herbicides can impair the quality of water for drinking or swimming;
- *your lakeshore "neighbors" perspective*: many strategies will impact much more than a selected stretch of shoreline. Neighbor perspectives will need to be considered.
- *cost and resources available;*
- *regulatory limitations*.

Once you have evaluated these criteria relative to your goals, you have a number of management options. The following is a brief summary of these management options, including a description of the technique and some of the advantages and disadvantages. This summary is not intended to be comprehensive.

(1) Nutrient input control: Frequently the main factor allowing excessive aquatic plant growth is an overabundance of nutrients in surface water. Algae blooms are a good indicator of excess nutrients. These nutrients enter from tributaries and from groundwater. Over time, these nutrients may also accumulate in the sediments.
Management tool: Use best management practices for agriculture and use streamside buffers to reduce nutrient loading from tributary streams. Consider sewers to reduce inputs from septic systems and reduce inputs from lawn fertilizers.
Limitations: Requires considerable involvement from your community to reduce nutrient loading. May be less effective if nutrients have accumulated in the lake sediments.

(2) Hand harvesting:
Managment tool: Perhaps the simplest method is the manual removal of the plants using a scythe, rake, hoe or other tool. This technique works well for small patches of weeds, patches located in-between docks and other hard to get places, and in very large lakes or high flow lakes where chemical treatment is impractical. It is also fairly permanent because it allows the removal of roots so that the plant is totally removed. This technique can be inexpensive unless you have to pay diver wages. Hand removal also allows the selective removal of certain plant species, leaving others intact.
Limitations: Cutting up some species allows them to disperse and get established elsewhere. This method is not practical for large patches and requires personnel with diving abilities.

(3) Machine harvesting:
Management tool: Use of large mechanical harvesters to remove large beds of aquatic plants. This is a frequently used option for larger lakes.
Limitations: Harvesters are expensive equipment which generally requires agency or government financing and operation. Large amounts of harvested weeds have to be disposed of. The technique is not species specific and also produces lots of small plant pieces. For plants such as Eurasian milfoil, these plant pieces are then dispersed and easily get established elsewhere in the lake. Harvesters do not remove roots so regrowth and reharvesting is often necessary, sometimes within the same season.

(4) Shade cloths:
Management tool: Laying down dark plastic fabric across the bottom in early summer prevents light from penetrating and therefore inhibits plants from growing. It is a useful technique for small patches and in-between docks.

continued on page 14

Limitations: The cloth is hard to handle and secure; divers are a necessity. Gas bubbles from the sediment build up under the cloth and can cause it to float to the surface. The cloths also tend to migrate down sloping banks. Over time, sediment may accumulate on top of the cloth and new plants will establish themselves there.

(5) Chemical shades:
Management tool: There are several different chemical dyes available for controlling aquatic plant growth. They are inert and work by reducing light penetration to the bottom. These are inexpensive and useful for ponds and small water bodies.
Limitations: Chemical shades are not useful for plants, such as curly-leaf pondweed or duckweed, which can get their foliage up to the surface to obtain light. Shades are also not useful for water bodies with a high flushing rate.

(6) Sterile grass carp:
Management tool: Sterile grass carp consume large quantities of plants and are useful in control of some species. Only a few fish are needed and the cost is relatively cheap. Only sterile grass carp are used in order to ensure that they don"t escape and invade natural aquatic systems.
Limitations: The carp have plant preferences and if there is a range of plant options, they may not eat the targeted species. The carp convert the plant biomass into fish biomass and excrete large quantities of nutrients. These nutrients may result in a bloom of microscopic algae. Carp are carefully regulated by NYSDEC and a permit is needed for their release. Restocking is generally needed after 5 yrs.

(7) Biological control - insects:
Management tool: Several aquatic insects are being shown to be useful in the control of E. milfoil and other invasive plant species. Densities of the insects have to be fairly high for control to occur.
Limitations: Research is not yet complete regarding the success of this method. Insects tend to be very host specific so accurate identification of the plants is critical. Availability of the insects is also limited and costs can be high.

(8) Chemical herbicides:
Management tool: Several different herbicides are commercially available. They can be fairly species specific and easy to apply.
Limitations: Most herbicides require some delay before water can be used for swimming, fishing or drinking. Herbicides do not work as well in systems with a high flushing rate. Rapid decomposition of the treated plants may result in algal blooms. Permits are needed.

(9) Winter drawdown
Management tool: Consistent lowering of the water level to expose the shoreline each winter will result in removal of many shoreline plant species.
Limitations: This method is not useful for floating plant species. It requires intensive water level management techniques.

Rebecca Schneider is Associate Professor, Cornell University, Department of Natural Resources. She conducts research on wetlands and landscape ecology, hydrology, and integrated water resource management.

Wild Things in Your Woodlands

By Kristi Sullivan

Eastern newt *(Notophthalmus viridescens)*

The eastern newt is a small- to medium-sized salamander with two irregular rows of reddish spots bordered by black circles. Adults range in size from 2 ½ to 4 ½ inches. During the breeding season, the tail fin of the male gets very broad, and he often waves it around in the water, seemingly displaying his breeding status. Males also have a series of dark, hardened pads on the inside of their hind legs.

During the summer months, the eastern newt often can be spotted in water or on land. The appearance of the eastern newt is somewhat different in each of its three distinct life stages: larva, eft, and adult. As developing larvae in the water, newts are small, with faint red spots, bushy gills, and tail fins. As they grow, they lose their gills, their tail fins disappear, and they emerge from the water as brightly colored orange or red efts. During this stage, which can last from two to seven years, they are very visible, often seen walking out in the open woods during the day. The bright color is a warning to predators, meant to remind them that newts secrete toxic chemicals that make them distasteful or even harmful to eat.

After several years of living on land as immature efts, their color becomes greenish-brown, their skin becomes smoother, their tails flatten out, and they return to the water as adults. In many permanent ponds and lakes, they spend the remainder of their adulthood in the water. However, in temporary ponds or in warmer regions, adults often go back on land during dry periods and throughout the winter. As adults, newts usually are a dull greenish brown in color, and have a yellow belly with numerous small black dots. Aquatic adults have flattened tails that are better shaped for swimming than the rounded tails of the efts.

The eastern newt lives throughout New York State from sea level to elevations above 3,300 ft. Aquatic adults are active throughout the summer and fall and in many areas can be seen swimming during the winter months. In early spring, as the ice is melting in lakes and ponds, adults begin to congregate along the shorelines and around vegetation in preparation for breeding. Females lay from 200-400 eggs, individually attaching each one to objects in the water. The eggs hatch in about four weeks. Larval newts can be seen swimming throughout the summer, until fall, when they transform into efts and move out of the water into the surrounding uplands. The bright orange terrestrial efts actively feed until late fall, after which they settle under logs, in crevices, or in burrows until early spring.

In both the adult and larval stages, eastern newts are aquatic animals that often live in great numbers in unpolluted, permanent bodies of water with plenty of aquatic plants. The species is extremely adaptable, however, and also inhabits temporary ponds, ditches, streams, and agricultural ponds. Efts are found in a variety of terrestrial habitats, but mainly in moist woodlands that border the ponds where they originated.

On land, efts eat insects, worms, and other ground-dwelling animals small enough to swallow. In the water, the newts' diet includes mosquito larvae, aquatic insects, leeches, clams, snails, and the eggs and larvae of other amphibians. They are also a food source for some predators, such as reptiles, that apparently are not bothered by their toxins. The total life span of an eastern newt can be ten years or more.

The best way to create habitat for newts is to maintain good water quality in lakes, ponds, and other water bodies that provide habitat for the larval and adult newts. Maintaining forest habitat adjacent to, or surrounding, these aquatic habitats will ensure that habitat is provided for all three life stages of this animal. Leaving logs and treetops on the forest floor can provide protection for the efts during times of dry weather, and can provide over-wintering sites during the coldest months of the year.

Adapted from "Hands-On Herpetology: Exploring Ecology and Conservation" by R. L. Schneider, M. E. Krasny, and S. J. Morreale.

Kristi Sullivan coordinates the Conservation Education Program at Cornell's Arnot Forest. More information on managing habitat for wildlife, as well as upcoming educational programs at the Arnot Forest can be found by visiting the Arnot Conservation Education Program web site at www.dnr.cornell.edu/arnot/acep/

The Large Carpenter Bee – A Different Kind of Wood Borer

DOUGLAS C. ALLEN

Many species of bees and wasps have fascinating habits that often go unnoticed. Understandably, I guess, most people concentrate on putting distance between themselves and the insect rather than stopping to observe the insect's behavior! Carpenter bees are formidable in appearance and often aggressively buzz an "intruder" who approaches the nest, but they rarely sting. My translation of the generic name given to this insect, *Xylocopa* (xye-low-cope-ah), is "wood cutter".

Though adults look somewhat like the common large bumble bee, their nesting behavior is quite different. They are stocky, blue back and approximately 1" long. The body region immediately behind the head, to which the legs and wings are attached, is covered with yellow, orange or white hairs. The most distinguishing difference is the fact that the top or dorsal surface of the last body region (abdomen) of the carpenter bee is bare and very shiny (Fig. 1). The bumble bee abdomen is covered with yellow, black and/or orange hairs.

The nest of the large carpenter bee is excavated in solid wood, where as most bumble bees nest in the ground. Adult carpenter bees emerge in April or early May. Mating occurs at this time and shortly thereafter the female begins to prepare a nest, either by occupying and expanding an old gallery or by excavating a new one. A entry hole (Fig. 2) is chewed into the face or edge of a board, most often on the south side of a building (Fig. 3). This entrance hole is perfectly round and 0.4 to 0.5" in diameter, or about the size of a 20 gauge shotgun slug. After the bee has entered to a depth approximately equal to the length of her body, she begins to excavate a gallery at right angles to the entrance hole along the grain of the wood. A new gallery will be 4 to 6" long, but when older galleries are reoccupied they must be extended and can attain an overall length of 6 to 9' in a few years.

Carpenter bee damage seldom seriously degrades or weakens wood. The presence of large bees around a building, the fact that these insects can be quite "noisy" and their habit of boring holes in wood, however, can make them a nuisance. Major damage may occur, however, if a woodpecker discovers the nest!

Once carpenter bees discover a suitable spot for nesting, they are unlikely to disperse very far from this location. Most likely they will re-infest the same nest for several years and, if so, eventually their damage may result in structural failure.

The adults are most active in spring and early summer and again in late summer and early fall. In addition to the entrance holes and adult activity, an infestation can be located by the presence of coarse, sawdust-like wood chips that are excavated from the nest and accumulate below the opening. These wood particles, called frass, resemble those produced by carpenter ants. Relatively soft material, such as bare redwood and white pine, are preferred for nesting, but hardwood that has been softened by weathering may suffice. Carpenter bees tend to

Figure 1. Adult carpenter bee – note shiny black abdomen.

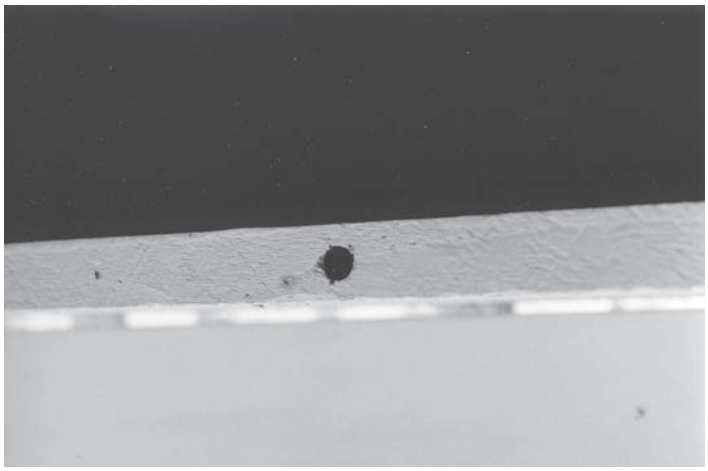

Figure 2. Carpenter bee entrance hole on the underside of a fascia board.

Figure 3. Carpenter bees have heavily infested several boards beneath the overhang of this south-facing outbuilding. This building has only one coat of poorly applied wood stain.

avoid well painted or heavily stained wood.

Nest construction requires that the female chew a gallery parallel to the grain of the wood. She provisions the end of this brood gallery with a small mass of pollen and nectar ("bee bread") near which she deposits an egg. She then creates a little compartment for the egg and larval food by sealing them off with a partition composed of wood pulp and salvia. She backs up and repeats this process several times (Fig. 4). When the eggs hatch, the larvae feed on the mixture of pollen and nectar. Newly developed adults must wait their turn to leave the nest, because they use the original entrance hole to exit.

Managing carpenter bee infestations is necessary only if the bees are bothersome or tend to repeatedly infest the same location. Protecting wood with a good coat of paint or stain, or replacing infested boards during the dormant season are the best preventative measures. Direct control may be necessary in some circumstances and is best accomplished by treating entrance holes with an insecticide approved for bees and wasps.

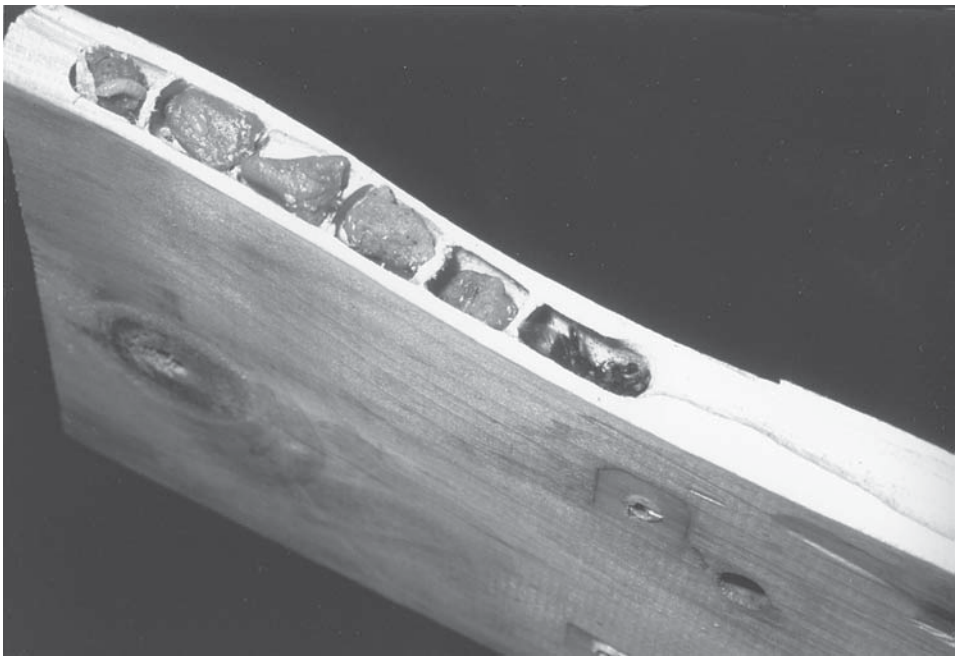

Figure 4. Carpenter bee nest. Each cell contains a mass of "bee bread" (mixture of pollen and nectar) and an egg. The female bee builds partitions made from masticated wood fibers and saliva between each cell.

This is the 80th in the series of articles contributed by Dr. Allen, Professor of Entomology at SUNY-ESF. It is possible to download this collection from the NYS DEC Web page at:http://www.dec.state.ny.us/website/dlf/privland/forprot/health/nyfo/index.html.

Portable Skidder Bridges Made Easy

New York Workshop Aims to Put More Bridges Under Skidders

Steve Bick

Five new portable skidder bridges were assembled and put in service this past April, as the Northeastern Loggers' Association (NELA) held its first-ever skidder bridge construction workshops at Paul Smith's college in northern New York. Coming one day before Earth Day, the first workshop was less of an event than an acknowledgement of the growing emphasis on protecting water quality in the Northeast. For those of us who quietly pursue our work in the natural environment every day, these bridges are a small part of a larger emphasis on sustainable practices.

The idea for this workshop came from two sources. Loggers, like many other people in small businesses, need to take away something worthwhile from a day devoted to continuing education. In teaching dozens of workshops for loggers all over the Northeast, I am always hearing this message. While most workshop participants have a genuine desire to learn new things, the need for credits towards certification is a big part of their motivation to attend a workshop. They must give up a productive working day that they will never get back in order to attend.

So, while many attend workshops for the credits, they are often pleasantly surprised if some useful information is passed along before the day is over. When picking from the wide array of training opportunities available, in other words, they try to find something that won't be a waste of their time.

The need for worthwhile continuing education drove the Northeastern Loggers' Association to begin offering a water quality best management practices workshop in 2003. In developing and teaching this workshop, it became clear that portable bridges are the answer in many situations. It was also clear that, while most loggers agreed that the bridges are practical and useful, there were some major obstacles preventing them from making the effort to put one together. One thing the NELA and I tried to do was remove some of these obstacles, in hopes that more bridges would be built and put into use.

Confronted with the need for practical workshops and a desire to protect water quality by placing more portable skidder bridges in circulation, NELA Director of Safety & Training Mona Lincoln and I decided to put together a bridge construction workshop. When we raised the possibility of a skidder bridge session with participants of other workshops, we had an overwhelmingly positive response. Some wanted the opportunity to build a bridge and take it home or to have one available to loan out in their area. Some wanted to see a bridge built with the intention of building one themselves later. Others simply wanted to see something tangible come from a day devoted to training.

Offering the workshop meant that we had to create an environment in which building these bridges would be easier. Most of the obstacles can be boiled down to cost—not only the cost of materials and labor for the actual construction, but the time required to get everything together. Getting long, heavy hardwood cants to a convenient location without trucking them multiple times can be a challenge. Since 20 feet isn't a common length for hardwood logs, advance planning is necessary to have them cut out this way. An individual logger or firm would probably have to spend three days or more just to make all of the arrangements to have everything they needed in one place before the bridge could be assembled. By taking care of these details in advance, workshops participants would only need to supply willing labor and a few tools to put each bridge together.

A sawmill, logs, hardware and tools: These are the things we needed to provide for a workshop where small crews of three to five people put a two-section bridge together in a day. We decided to follow the popular design shown by Kitteredge, Woodall & Kitteredge in their *Skidder Bridge Fact Sheet*. Using this design as a guideline, we decided to make 20 foot long, 4.5 ft wide, two-section bridges from hardwood cants (alternating 6x8- and 6x6-inchers).

The first thing we discussed was location. We thought that the sawmill at Paul Smiths College would be ideal, because we wouldn't be imposing on a commercial operation and because we knew there was an excellent instructor and students involved. We pondered how to talk Fran McAllister of Paul Smiths Forestry Faculty into it. This turned out to be the easiest part of the whole endeavor. He agreed to help the moment we approached him about. From then on, the whole project became much easier. His small army of

students embraced the idea just as quickly as he did, and they sorted out most of the logistics for us.

A generous landowner and helpful logger provided the necessary logs. Langley Park Association of Long Lake, NY, donated the stumpage on all of the beech sawtimber cut that winter. Francis VanAlstine of VanAlstine Logging in Lyons Falls, NY, saved us a 20-foot butt log from nearly every beech tree he cut.

With little advance notice, VanAlstine arrived at Paul Smith's sawmill one Saturday morning in March with the first two loads of logs. He was surprised when he returned a few hours later with the last load to see more than a dozen students running the mill. The students had been eager to go to work on this project ever since it was first brought up to them the previous fall. Word spread quickly and they sawed out a lot of cants that day.

With the cants all sawed and the hardware delivered, we were ready for a trial run of the workshop. On April 14, we had a glimpse at the future of forestry and it was encouraging. Fran McAllister and his students laid out skids for us to use as work-stations. Students stayed up late the night before to put together drilling guides.

Working in two separate crews, the students assembled a bridge. We learned a great deal about how to put them together. We had a large group of students and expected to see them come and go all day, as many had classes to go to. I didn't see any of them leave and their ranks swelled as more joined them. A surveying instructor was good enough to cancel class when he realized all of his students were out building bridges.

In general, the construction process involved drilling six 1-inch holes in each cant. The ¾-inch threaded rods were pushed through and steel plates, washers and nuts were put on one end. Ratchet straps proved to be critical in drawing up the gaps between the warped green cants so they could be spiked together with 8-inch galvanized spiral nails. Any remaining gaps were drawn up tightly once all of the nine cants per section were put together and the nuts were tightened on the both ends.

This test-run of the workshop made things much simpler for us the following week when we held the workshop for loggers. We had a general process worked out. We didn't want to give a rigid set of instructions to a group of loggers, because they would probably just ignore them. Besides, this might this might stifle innovation. We did rule out a few inefficient things.

With 16 official participants (and several students who cut class to join us) we built four more bridges that day, exhausting our supply of cants. Lunch was delivered to us a prearranged time, but in typical logger fashion, everyone kept working until they had one section complete before they took a break. Even then they stopped only long enough to wolf down a sandwich and then got right back to their work. The bridges were all bought by participants

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Some cants needed a little extra persuasion.

for the cost of materials.

Among the important things we learned that day is that you can never have enough drills and bits on hand. The threaded rods came in 6-foot lengths, even though the sections are only 4.5-feet long, so most people left them long with the intention of adding more cants later to make them wider. Time spent working outdoors can be just as educational as time in a classroom, but it sure goes by much faster.

We also learned that Paul Smiths is an ideal place to produce this style of bridge in this manner. We probably can't quite duplicate this experience in other locations. Having a willing sawmill within a reasonable distance of a supply of low cost 20-foot hardwood logs and plenty of time to plan is more than we will be able to hope for when we take this show on the road. The result is a second bridge design that is intended to provide flexibility in scheduling future workshops. This second design makes use of hardwood pallet cants available at many small sawmills.

Northern Logger editor Eric Johnson and I tapped in to a local supply of 3x4-inch hard maple pallet cants to build one section of a three section bridge. The bridge itself is made up of three separate 8x13-foot (by 7 inches thick) sections that can be laid onto a pair of stringers to create a 13x24-foot bridge. More sections could be added for a larger bridge, if necessary. The sections themselves can be used individually, without stringers, as mats over wet spots or for crossing very small run-offs.

Large quantities of these cants are available in the 8 to 12-foot lengths. We obtained a supply of them and worked on a pair of skids to put our bridge section together. The 12-foot cants were nailed with their 4-inch faces against one another. The ends of the cants were alternated by one foot to give us an overall length of 13 feet. We nailed them using galvanized #60D pole barn nails. Drilling pilot holes before nailing into the green lumber was a must, but only through the first cant. We bent many nails and found it far easier to cut them off with a bolt cutter than to pull them out.

Angling the edge of a bridge cant with a chain saw.

Once 32 of these 12-foot cants had been nailed together to achieve an 8-foot width, we started nailing 8-foot cants with the 4-inch face down across the top to form a deck. We alternated the starting point of the cants in each of the four corners in order to create a hole large enough for a choker chain to be used to pull the bridge section from any corner.

This second bridge design requires far less hardware than the first and doesn't require special logs. We used beech in the first design because of its low cost, but pallet cants of several different species can be used as they are all the same value.

Both bridge designs have similar total costs in terms of material. The major advantage in the second design is that three 8x13-foot sections create a larger bridge than two 4.5x20-foot sections. The first design, however, is easier to set up and does not require a set of stringers. We will probably employ both designs in future workshops.

Do you need skidder bridge? Are you interested in hosting a workshop of this type in your area? If you can help us with the logistics, we can partner with you in putting on productive day of continuing education and getting more bridges into use. Just contact Mona Lincoln at the Northeastern Loggers Association (mona@loggertraining.com).

Steve Bick is a consulting forester and adjunct professor at the State of New York College of Environmental Science & Forestry in Syracuse. He conducts seminars and workshops for the Northeastern Loggers' Association. This article originally appeared in the October 2004 issue of Northern Logger and is reprinted with their permission.

The Palm Family 2005 Outstanding Tree Farmers

The Palm Family — Dan and Linda, Charles and Cora, of Delaware County — have been named the New York State Outstanding Tree Farmers of the Year for 2005. The award was presented to them on April 26, 2005 as part of the New York Arbor Day celebration.

For over 60 years, and nearly 50 here in the Empire State, Tree Farm has recognized and certified forest owners who actively manage their properties to promote the 4 W's of wood, water, wildlife, and wecweation.

Palm family receives the 2005 NYS Outstanding Tree Farm Award

The 2005 Outstanding Tree Farmers are private landowners, who manage their property for fun, profit, and the public good. The Palm family Tree Farm consists of 450 acres in Stamford, Delaware County. The management of their woods affects millions of people in New York City who depend upon the unique blend of public and private lands in the Catskills for the water they use each day. Their activities influence hundreds of school children as they have hosted wildlife tours for students from New York City, and participated in Forest Tours for Teachers.

In nominating the Palm's their Forester stated "The Palm Family has always combined several objectives in every operation to maximize the benefits from every forest management activity implemented.

They have long recognized the many benefits to wildlife, recreation, and their wallets from practicing good forest management. Dan especially has become an outspoken preacher of good forest management through his activities as a Master Forest Owner, Chair of the New York City Watershed Forestry Committee, and as Executive Director of NYFOA."

Congratulations to the Palm Family; Dan and Linda, and Charles and Cora.

This article is taken from part of the speech given by Michael J. Burns, Program Manager of ESFPA and chair of the NYS Tree Farm, at the Award presentation.

Know Your Trees

American Larch

(Latrix laricina (Du Roi) Koch*)*

American Larch is a forest tree of the swamps. In the mountainous sections of the state, it is frequently found well up the slopes, but is confined to cold swamps in eastern, central, and western New York. The wood is very heavy, hard, and strong, light brown in color, and durable in contact with the soil. IT is used for fence posts, telegraph poles, and railroad ties.

Bark–smooth, light gray in color on young trunks; with age becoming roughened with thin reddish brown scales.

Twigs–slender, smooth, glossy brown in color, with short lateral wart-like branches.

Winter buds–scattered along last season's twigs and at the ends of short lateral branches, small, rounded, reddish brown in color, shining.

Leaves–borne singly on twigs of last season's growth; on spurs of older twigs in clusters of 10 or more, flat, slender, pale green in color, about 1 inch long, falling off in the autumn of the first year.

Fruit–a cone, 1/2 inch long, borne on short curving stalks, maturing in autumn of the first year, chestnut brown in color, standing upright from the twigs, staying on the tree for several years. Cone scales are concave in shape. Sees–in pairs, winged, light brown in color, 1/8 inch long, ripening in early autumn.

AMERICAN LARCH
Branchlet and cone, natural size

Outstanding features–many needles in cluster, dropping in autumn; small stiff cone on incurved stalk.

Information originally appears in "Know Your Trees" by J.A. Cope and Fred E. Winch, Jr. and is distributed through Cornell Cooperative Extension. It may also be accessed via their web site at http://bhort.bh.cornell.edu/tree/trees.htm

THE MARKETPLACE

MAGAZINE DEADLINE

Materials submitted for the September/October issue should be sent to Mary Beth Malmsheimer, Editor, *The New York Forest Owner*, 134 Lincklaen Street, Cazenovia, NY 13035, (315) 655-4110 or via e-mail at mmalmshe @syr.edu Articles, artwork and photos are invited and if requested, are returned after use.

Deadline for material is August 1, 2005.

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