The New York Forest Owner

A Publication of The New York Forest Owners Association

For people caring about New York's trees and forests

January/February 2021

Member Profile: Frank Winkler

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NYFOA
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In This Issue . . .

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The New York Forest Owner is a bi-monthly publication of The New York Forest Owners Association, PO Box 541, Lima, NY 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; direct all questions and/or comments to jefffjosephwoodworker@gmail.com. Articles, artwork and photos are invited and if requested, are returned after use.* ***The deadline for submission for the March/April issue is February 1, 2021.***

Please address all membership fees and change of address requests to PO Box 541, Lima, NY 14485. 1-800-836-3566. Cost of family membership/subscription is $45.

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Cover: Front cover: Frank Winkler with wife Vickie and granddaughter Annamarie enjoying their property; the maturing larch trees in the background were planted by Frank and Vickie in 1974.

From The President

2020 — what a year it's been. Sadly, the Covid-19 virus has impacted so many people, families, and businesses since the spring. We've all had to make adjustments over these long months in response to the pandemic. But, finally, I believe we can see light at the end of the tunnel, with advances in medical therapies and treatments, and several new successful vaccines that show much promise.

During this stressful time, our forests have been a source of calm and tranquility, while providing a safe environment to interact with family and friends. Many people have spent more time in our forests than usual. Our woods are a welcome retreat from the day-to-day routine, and allow individuals to enjoy all the gifts of nature that a walk in the woods presents.

Like many organizations, The New York Forest Owners Association was challenged to ensure our mission, "… "to promote sustainable forestry practices and improved stewardship on privately owned woodlands in New York State…", advanced. With the help of NYFOA's board of directors, local chapter leadership, and engaged members many successful initiatives were accomplished.

Examples of these initiatives include:

- February 2020: NY Farm Show NYFOA held 13 seminars with more than 300 participants;
- July 2020: *The Woodlot*, monthly e-newsletter established;
- July 2020: e-news blasts for timely communications established;
- Participation in "The Nature's Chain" 2020-2021 exhibit at the John L Wehle Gallery at the Genesee Country Village;
- Educational webinars provided;
- Virtual meetings established (state-wide, chapters);
- Enhanced chapter newsletters published (mail and electronic); and
- *The New York Forest Owner* magazine and website continued outstanding coverage.

Looking forward to 2021, we will continue to improve our communications. And, we anticipate returning to our peer-to-peer in-person educational woodswalks and manning our educational booths at programs and fairs throughout the state.

NYFOA congratulates Joanie Mahoney on her recent appointment as president of the SUNY College of Environmental Science and Forestry. We sincerely welcome President Mahoney and look forward to a continuation of the long-standing relationships we have with SUNY ESF and the other natural resource organizations across New York State.

Wishing all a happy, healthy and safe New Year!

–Art Wagner
NYFOA President

The mission of the New York Forest Owners Association (NYFOA) is to promote sustainable forestry practices and improved stewardship on privately owned woodlands in New York State. NYFOA is a not-for-profit group of people who care about NYS's trees and forests and are interested in the thoughtful management of private forests for the benefit of current and future generations.

Join!

NYFOA is a not-for-profit group 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 helps the interested public 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 statewide meetings.

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Why Thinning Matters

Ed Neuhauser

In general in northeastern forests, tree regeneration occurs naturally. While the regeneration may not be of desired or high-value species due to intense selective browsing by deer, under normal circumstances, an open field with nearby seed trees could result in up to 50,000 seedlings per acre, which is more than enough if we want to end up with 50 to 100 high quality trees per acre in a mature forest 80 to 100 years later.

But what are the consequences of not being able to carry out the timely thinning and reduction of stand density that foresters would like to achieve? How does thinning---or the lack of thinning---affect the quality of the sawlogs produced, and what are the effects on the value of the products that are able to be made from those logs? Let's examine an example from my woodlot that demonstrates the long-term benefits of thinning.

White pine (*Pinus strobus*) is found throughout New York State, while red pine (*Pinus resinosa*) has a much more limited range in New York (Figure 1). As part of the reforestation efforts that took place in the first half of the 20th century, large numbers of conifers were planted in abandoned agricultural fields. Recognizing that open-field plantings of white pine would result in the white pine weevil (*Pissodes strobi*) infesting the terminal leaders of many of these young trees destroying their future lumber value, many fields were instead planted with red pines. This resulted in stands of red pine being planted far outside of its native range and preferred soils in many areas of New York.

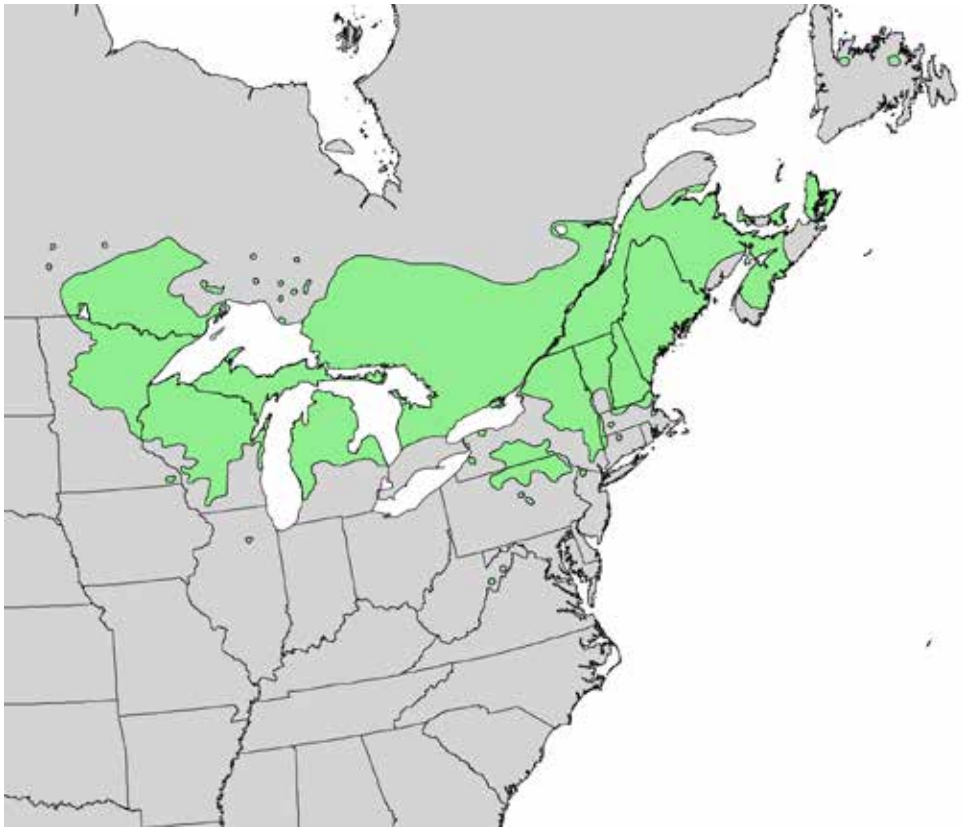

Figure 1. The natural range of red pine (Pinus resinosa) in the Northeastern US; https://commons.wikimedia.org.

We are fortunate in having two areas planted in red pine by two different owners on our current property. One

small area of one acre was planted with very close spacing of the trees and was never managed in any way thereafter. The second area of five acres was planted in 1927 and was heavily thinned in the 1940's, when the trees where about 6 inches in diameter. You can still see the evidence of this thinning from the hundreds of partially decayed stumps that are still visible on the plot. I was fortunate to be able to obtain the history of this plot from my neighbor, who was born in 1906, and who planted and thinned these trees with his father. They also trimmed the remaining trees with pole saws, removing branches and branch stubs on the lower stems, resulting in butt logs with clear lumber.

My wife, who is both younger and smarter than me, works from a home office. After I retired in 2012, she decided that the best way to get me out of the house so she could have a peaceful and quiet work environment was to encourage me to buy a tractor and sawmill. I was going to buy a small manual sawmill, but one of my more knowledgeable and practical friends identified the challenges of a manual mill, so I ended up getting the smallest hydraulic mill that Wood-Mizer makes, the LT-35. Sometimes it is a wonderful thing to have a spouse who wants to get rid of you and friends who realize your limitations.

The acquisition of the tractor and sawmill has resulted in my sawing lots of red pine to build a heated wood-working shop, which was strongly encouraged by my wife to get rid of me in cold weather. So I have ended up sawing many thousands of board feet of red pine, which led me to begin to understand how the size of a log influences the value of the product obtained from that log.

When sawing logs, it is the diameter of the small end of the log that will determine the size and amount of lumber that you can obtain from that log. The larger end of the log will all be sawn off in the 4 slab cuts, which ideally also cuts off all of the bark. When I saw for boards that are 10-feet long, I cut an 11 foot log to make sure I have 6 inches of trim on both ends of the lumber. So if I cut a 15 inch DBH (diameter at breast height) red pine, assuming a 1 foot stump, it is the diameter of that log at 12 feet that determines the dimensions of the lumber that I will be able to obtain from that log. A 15 inch DBH red pine log would result in the diameter of that log at 12 feet that would range from 11 to 13 inches.

Figure 2. Lumber produced from two 10 foot logs of identical age. The lumber on the left, 44 board feet, was produced from a log that was 10" on the narrow end. The lumber on the right, 75 board feet, was produced from a log that was 12″ on the narrow end.

In designing my shop, I decided that I wanted to use board and batten siding that was 1 inch thick. Then the question became: what size boards and battens could I obtain from the available red pine logs? The battens were easy to figure out; I decided that I would use battens 3 inches wide. These were readily obtainable from the first board cut in a log after the slab cut.

If you take into account the amount of wood that you have to take off in the slab cuts, a 10 to 12 inch diameter log on the small end will allow you to cut 8 inch wide boards. The red pines were about 70 to 75 feet tall, allowing me to obtain up to five 11 foot logs per tree, as it is characteristic of closely planted red pine to have long straight stems (of little taper) topped by short crowns. If the diameter of the small end of the 5th log on the tree was at least 6 inches, I could saw two 2″ x 4″s from that log, for a total of 13.4 board feet (one board foot equals 144 cubic inches of wood; to calculate, take length x width x thickness, all in inches, and divide by 144 to determine total board feet).

I found that I could obtain some 10 inch wide boards from some of the larger diameter butt logs, but not very many. One problem with wide boards is that they can have a tendency to warp if they are not correctly placed on a wall. One way to minimize this problem is to follow the suggestion from barn builders of old: "Place the bark to the barn." This means placing the outside of the tree towards the inside of the building. This way if the board warps, as some will, the cupping will not result in a split board.

So I ended up cutting primarily 8 inch boards, mostly from the butt logs, and some of the 2nd logs, and 1″ x 3″s, 1″ x 6″s, 2″ x 4″s and 2″ x 6 ″s from the rest of the logs from higher on the stems.

So how does this relate to the usefulness of the logs from plots of thinned and unthinned red pine? The red pine grown on the thinned plots had many trees that reached 15″ DBH, with clear stems, while the red pines on the unthinned plot limited the DBH to 6 to 8 inches, and as these trees were never pruned, they were riddled

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Why Thinning Matters (continued)

with dead branch stubs, which further reduced their utility and value.

To demonstrate the value of thinning I compared the amount of lumber obtained from the butt logs of 2 red pines of the same age, but the larger tree had more space (and it's crown more access to sunlight) to grow. From the 10 foot log whose narrow end diameter was 10″, I obtained 2- 1″x 6″, 3- 1″x 8″and 2- 2″x 4″s, for a total of 44 board feet of lumber. From the log whose narrow end diameter was 12″, I obtained 3- 1″x 6″, 7- 1″x 8″s and 2- 2″x 4″s, for a total of 75 board feet of lumber. So I obtained 70% more lumber from a log that was only 2″ larger in diameter (see figure 2). I also obtained 4 additional boards of the more valuable lumber, the 1″x 8″s. So the thinning that took place in the 1940's really paid off when the stand was harvested and the logs sawn for lumber.

I would be lucky to get a couple of 2″ x 4″s from the butt log of the trees on the unthinned plots, and probably would get little or nothing from the second log on these trees. While the red pine on the unthinned plots would be suitable for pulp, they really would not be suitable (or worth the effort) for lumber. So as my experience with these two stands demonstrates, thinning really does matter, as what happens early in the life cycle of a stand can have great consequences for the final value of its timber.

On a final note, one of the best benefits of NYFOA membership is the willingness of more experienced NYFOA members to share their knowledge with other members. Early in my sawing career, I was very fortunate to have a visit at my place from million board foot sawyer Dave Williams. Dave showed me in one afternoon how to get much more lumber from my logs, resulting in thousands of additional board feet of lumber since his visit, boards that would have previously ended up in the slab pile. It is NYFOA members like Dave that make NYFOA the wonderful organization that it is today.

Ed Neuhauser is a NYFOA board member who saws lumber in Groton, NY.

Red Pine

In its native range in New York State, red pine (Pinus resinosa) historically grew in greatest abundance in the northeastern quadrant of the state, where its adaptation to fire and tolerance of dry, nutrient-poor soils allowed it to compete well and thrive in the sandy and acidic soil types found there. This ability to adapt to low-fertility substrates, its usefulness as a structural timber, and ultimately its immunity to the white pine weevil led to red pine being widely planted in reforestation efforts across the state in the first half of the 20th century.

Red pine foliage (with deep green, 4-6" long needles in bundles of two), and fire-adapted seed cone.

Red pine stem with its distinctive red-brown bark plates.

Unfortunately, very few of these red pine plantations were thinned or otherwise tended thereafter, leaving them vastly overstocked, and with their growth rates stagnant. Viewing the unfortunate mess that many of these stands are in today, it would be too easy to simply dismiss red pine as a non-viable timber species, and to overlook its significant values (and historical usage) when managed appropriately.

For more insight into this story, and for a look back to the red pine "era" here in New York, I would highly recommend "Red Pine Plantations in New York: The End of an Era," by Robert Demeree, which was first published in these pages back in 1992 (*The New York Forest Owner*, Vol. 30, #6, Nov/Dec 1992, pp. 6-8.). To access the Forest Owner archives, go to www.nyfoa.org, click on Resources, *then Archives of the New York Forest Owner*, and then search either by year or by topic.

—Jeff Joseph

Red pine can often be readily identified at a distance due to its propensity to grow in clusters (or plantations when planted), its thick, deep green foliage, the distinctly red-hued bark, and its long, straight clear stems of little taper topped with notably short crowns.

Ask A Professional

Brett Chedzoy and Peter Smallidge

Peter Smallidge

Brett Chedzoy

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 influence specific management options. When in doubt, check with your regional DEC office or other service providers. Landowners 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.forestconnect.info

Assessing Woodlands for Silvopasture

Question:

I'm thinking about different opportunities to generate income from my woods. Is anyone looking at free-range poultry in the woods or a sugarbush? (Ailis C., SFL)

Answer:

Silvopasture is a land-management system that simultaneously focuses on the sustainable and integrated production of trees, forage, and livestock. There are examples in New York and the Northeast for the use of almost all types of livestock including poultry, small ruminants such as sheep or goats, and larger ruminants such as cattle. Past generations of farmers, woodland owners, and foresters had concerns about using woodlands for grazing. As described below, those previous concerns can be circumvented, and silvopasture can be a positive tool for forest health, soil health, and carbon sequestration.

Each type of livestock would have specific needs for use in a silvopasture system. Poultry, for example, would be rotationally grazed differently than sheep or cattle because they are more likely to feed on seeds and insects than on forages in a silvopasture understory. They can be integrated with ruminants or grazed alone. Their action in scratching the soil surface as they look for insects creates a suitable seedbed to establish forages that need exposed mineral soil (Figure 1). The particular challenge with poultry is to ensure their safety from predators, especially birds of prey.

As with any new enterprise or effort, planning must include deliberate attention to the opportunities and challenges that exist. Because silvopasture integrates multiple production systems, the assessment is more comprehensive than for simpler systems. There are several silvopasture resources on the ForestConnect publications page at *http://blogs.cornell.edu/ccednrpublications/agroforestry-silvopasture/*. Notably there is a guide for developing a silvopasture and also links to case study examples of silvopasture in the Northeast.

On this webpage, there is also a site assessment guide (short URL *https://bit.ly/SP-assess*). The site assessment guide considers factors that influence the suitability of an area for silvopasture, and offers suggestions on how to remediate factors that are less than ideal. The assessment would apply individually and collectively to management units (i.e., stands) to be included in the silvopasture. The site assessment guide has additional details and provides a scoring system, and a discussion of each factor follows.

continued on next page

Figure 1. Chickens and turkeys are viable livestock for a silvopasture. Portable electric net keeps the birds in and the four-legged predators out. Birds of prey can cause problems for poultry.

1. Site quality for an area is based on the ability of the site to grow trees and forages. This factor addresses primarily soil characteristics related to drainage and fertility. Historically the earliest lands to be abandoned from agriculture were those least fertile, least accessible to the farmer, wetter or drier than other areas, and/or less easily tilled (Figure 2). The site quality of forest land will usually be less optimal than lands currently in single commodity agricultural production. For silvopasture, the drainage and fertility are of greatest interest. Except perhaps for some orchards, existing lands with trees are not likely able to be tilled. Soil treatments would be implemented through livestock or surface applications of seed or other amendments.

2. Silvopasture involves rotational grazing of livestock within fences. The areas to be included will ideally have good access regardless of season or recent weather patterns. The owner will need to inspect fences, facilitate the movement of livestock from other paddocks, and potentially access the site for vegetation treatments. Because most woodland will need some thinning to reduce the abundance of low-value trees to stimulate the establishment and growth of forages, harvesting may provide the opportunity to improve access. In other circumstances, some

Figure 2. Stone walls are proof of past utilization for agriculture. These soils may not be as productive as current open farm land, but they have some inherent productive capacity. Other forest lands may also be productive, but weren't located to allow for past agricultural production.

Figure 3. This is an example of allocating space in a woodlot to livestock, but would not qualify as silvopasture. Unless expertly managed, pigs can cause great damage to woods, and pigs in a seasonally flooded woods without forage will cause harm to soils and desired species.

Figure 4. Silvopasture is made possible with a system of permanent perimeter fences (shown) that are segmented with portable electric net (Figure 1) or fence. These systems allow for the necessary frequent movement of livestock among paddocks to prevent damage to soils and root systems.

investment in woods-roads or access trails may be required.

3. Livestock with a small body size (e.g., chickens, turkeys, sheep, goats) are less likely than large bodied livestock to alter soils saturated by a significant rainfall. The goal is to minimize "pugging" or "post-holing" wet soils, which can alter soil structure (Figure 3). Some amount of pugging can be reversed with winter freeze-thaw cycles. Soils that are prone to saturation can be avoided during wet conditions. Installing drainage tile in silvopasture is not common, but this activity is sometimes practiced in some poorly drained sugarbushes of Quebec and might have application in a silvopasture. Related to this consideration of drainage and erosion is the presence of vernal pools or wetlands from which ruminant livestock should be excluded.

4. Livestock usually learn how to avoid situations that can cause them harm, but not always. The owner needs to look for hazards such as gullies, flood-prone streams, or areas of high predator density. Sheep and goats may lean against small trees in open brushy pastures to access foliage and have a leg caught in a fork. In areas adjacent to public roads, poor fencing and high traffic should be viewed as a hazard. Remediation of these concerns is often best addressed through heightened attention to effective fencing, or removal of the hazard if feasible.

5. The potential for silvopasture has expanded only because of the availability of portable and low cost fencing, usually within a permanent perimeter fence (Figure 4). The terrain of the silvopasture is best when access for installation and inspection is simple. Areas with heavy understory vegetation will require more effort prior to installing fencing. Nothing fosters frustration quite like loose livestock, so paddocks need regular inspection to repair damaged fences. Gentle slopes and open understories facilitate inspective and access via foot or farm vehicles.

6. Livestock can obtain a portion of their water from vegetation, but some supplemental supply of water is needed. The best circumstances allow for potable water with minimal investments of infrastructure. Sometimes, water is hauled to the location, wells can be drilled or dug and enhanced with the addition of distribution systems, or surface water improvements are installed. Every paddock need not have water as livestock can have access to adjacent recently grazed paddocks that have a water source.

7. The size, shape, and location of the management unit under consideration each influence the logistics of utilization. The size should be big enough to justify the fixed-cost effort (e.g., water supply), noting that variable costs (e.g., thinning effort per acre) may also be a factor. The shape influences the ease and efficiency of fencing. An isolated area is less optimal than an area that is proximate to existing grazing operations. Perhaps it goes without saying that among

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isolated sites, a large area is preferred to a small area.

8. The evaluation of each site, assuming there is some investment needed to create or use it, should always be within the context of all other sites on the property. Consideration of alternate sites aligns with the strategy to focus on those sites with the best utility. Note, however, that a site may be suboptimal when considered alone, but might serve an important role over the course of a grazing season For example, the suboptimal site might have a location (e.g., bridging two other areas) or other factors (e.g., good soil for use during the rainy season) that increase its relative worth.

9. A silvopasture, by definition, has trees. These are often timber species in natural stands or plantations, but trees could also be present as a fruit or nut orchard. Trees provide benefits to livestock, especially in the way they can buffer hot summer sun and cold winter winds. Trees reduce the energy needs of the livestock to thermoregulate. The "ideal" condition of trees as forest, orchard, or open pasture may depend on the needs of the owner, or the owner's ability to make the best of a given situation. In some cases a fully stocked forest stand provides the opportunity to thin the woods and obtain firewood and low-value sawlogs, but with some significant effort and time. Alternatively a pasture allows for planting of trees and creating spatial patterns or species (e.g., conifer as a living barn) that may facilitate some other aspect of the property. The least desirable example of this attribute might be a severely high-graded stand, or an area dominated by invasive trees species such as European buckthorn (Figure 5). While even these less desirable examples help the animals thermoregulate, they offer little future value to the owner.

10. The plants found in the forest understory of a developed silvopasture are often different from the plant species found in open pastures because of the contrasting amounts of sunlight. However, livestock in the silvopasture

Figure 5. At this location, European buckthorn colonized and dominated otherwise fertile muck soils in Seneca County, NY. There is no forage present to support any livestock, as a result of a combination of dense shade, deer impact, and perhaps other factors.

Figure 6. This woodland was dense forest canopy until thinned with the intention of creating silvopasture. The 50 acre woods expanded the land available to an existing pasture-based grazing operation. Firewood quality trees were removed to provide more sunlight to the forages. The owner spread seed in August after the harvest, and grazed sheep with hay to press the seed into the exposed mineral soil. The result was highly favorable.

need forages of high nutritional quality. The ideal woodland has existing understory plants to browse, or the ability to establish those through canopy thinning and scarification of the litter layer. Many woodlands have seed beds of stored agricultural plants, but the owner may also decide to sow seed to accelerate forage establishment or to influence the composition of forages available (Figure 6).

For owners interested in additional revenue, especially those with existing livestock operations that would like an expanded land base, silvopasture is worth considering. Modern technologies of portable electric fence and rotational grazing allow owners to avoid the concerns of "putting cows in the woods." A regional silvopasture field tour is planned in the southern Finger Lakes area (Watkins Glen/Corning) on June 3 and 4, 2021. More information about this event will be posted to *http://silvopasture.ning.com*

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The column is coordinated by Peter Smallidge, NYS Extension Forester and Director, Arnot Teaching and Research Forest, Department of Natural Resources, Cornell University Cooperative Extension, Ithaca, NY 14853. Contact Peter at pjs23@cornell.edu, or (607) 592 – 3640. Visit his website www.ForestConnect.info, and webinar archives at www.youtube.com/ForestConnect. Support for ForestConnect is provided by the Cornell University College of Agriculture and Life Sciences and USDA NIFA through McIntire-Stennis, Smith-Lever and the Renewable Resources Extension Act.

Wild Things in Your Woodlands

Maggie Lin

Great Horned Owl (*Bubo virginianus*)

The great horned owl is a powerful, thick-bodied owl that can grow up to 25" long with a wingspan of up to 55". An adult owl weighs between two and five and one half pounds, and females are larger than males. This owl has a finely barred, brown belly, white neck bib, yellow eyes, and namesake prominent ear tufts.
Great horned owls live all across North America up to the northern tree line. They live in a diversity of wooded habitats, including deciduous, coniferous, and mixed forests. They typically prefer forests adjacent to open habitat, like fields, wetlands, and croplands. In the wild, great horned owls live for 5 to 15 years!

Great horned owls are common not only across New York State's forests, but also near cliffs and agricultural fields, and even in suburban and urban areas. Their calls are loud, consistent, and perceptible three-to-six-noted hoots in a stuttering rhythm. Calling begins in late summer and continues through the winter. In the summer, young fledglings' calls are often mistaken for the cry of a bobcat or fox.

An incredibly wide variety of prey make up the diet of great horned owls, mostly mammals and birds — for example, rabbits, mice, voles, ducks, and crows. These owls have the most diverse diet of North American raptors. They also eat skunks, which most other predators avoid! They supplement their diet with other small animals, including reptiles, insects, fish, and invertebrates, and sometimes will eat carrion.

Great horned owls are active mostly during the night, particularly at dusk and dawn. They are excellent nocturnal hunters but will also sometimes hunt in broad daylight, especially in the winter when food is more scarce. They watch for prey from a high perch, and once they spot it, pursue it from the air. Sometimes the owls will even walk along the ground to stalk smaller prey around obstacles. Great horned owls are defensive and will try to intimidate intruders by bill-clapping, hissing, screaming, and making guttural noises, and will eventually spread their wings and strike out with their feet if the threat escalates.

The owls make their nests in hollow cavities and broken parts of trees, and often use the abandoned nests of other animals like squirrels, hawks, herons, and crows. Mated pairs are monogamous and incredibly defensive of their territories. Pairs may roost together near a future nest site for months before they lay eggs. Great horned owls typically lay a clutch of 1-4 eggs, and only have one brood per year. The eggs are incubated by both parents for 30-37 days. Once hatched, the helpless chicks spend another 42 days in the nest before fledging. The nests deteriorate over the breeding season and are rarely reused in later years.

As top predators, adult great horned owls are rarely attacked by other animals, but they are often harassed by crows, ravens, songbirds,

and raptors. These other birds will dive-bomb, chase, and peck the owls while calling loudly and incessantly. Eggs and nestlings are more at risk — left unattended, they can fall prey to predators like foxes, coyotes, raccoons, raptors, crows, and ravens.

Great horned owls are common, although populations declined throughout their range by about a third from 1966 to 2015. Accumulation of pesticides and other toxic chemicals in prey animals can poison owls that eat them. However, great horned owls adapt well to habitat change, as long as nesting resources are available. If you are hoping to attract these owls to your woodlands, consider putting up a nest box well before breeding season to attract a mated pair. Make sure to include a guard to protect eggs and young from predators! Next time you are out to catch the sunset, make sure to keep an ear out for these wild things in your woodlands.

Maggie Lin is a Program Assistant for the New York State Master Naturalist Program, directed by Kristi Sullivan at Cornell University's Department of Natural Resources. More information on managing habitat for wildlife, and the NY Master Naturalist Volunteer Program, can be found at https://blogs.cornell.edu/nymasternaturalist/

Portions of this article were adapted from NYDEC's "New York State Fisher Management Plan"(2015). Photo credit: James Mann

Welcome New Members

We welcome the following new members (who joined since the publishing of the last issue) to NYFOA and thank them for their interest in, and support of, the organization:

Name	Chapter	Name	Chapter
Reem Abdou	LHC	Robert Kaite	NFC
Michael Adams	WFL	Ronald Kinne	SOT
Bruce Blake	CDC	Jacqueline May	NFC
Chadwin Brubaker	SOT	Julie McGanney	CDC
Brandon Bulkley	WFL	William Middlebrook	WFL
Charles Claus	CDC	Bill and Travis Phoenix	SFL
Richard D. Conklin	SOT	Mark Rebich	SOT
Shaun Gillilland	NAC	Alfred Sive	SOT
Beth & George Honadle	WFL	Martin Svidro	CDC
Dawn Marie Jones	WFL		

NYFOA POSTED SIGN ORDER FORM

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Getting the Most from Your Woodlot: *Firewood Harvesting*

By Eric Jenks

As the nights have gotten longer, and the days chillier, those of us in the Northeast turn to the age old question of how to stay warm for the winter. Today, many heat with fossil fuels or geothermal sources, but as many of our New York Tree Farm (NYTF) members know, nothing can beat the charm of an old fashioned wood fire. Stories of fire for warmth are as old as humanity itself. Whether it was a gift from the gods as with Prometheus in Greece, or a precious item stolen by humans from the grasp of monsters high up on a mountainside, as the tale goes with the Abenaki, an Algonquin tribe native to the Adirondack region. The Abenaki tale says that a young boy, with the help of fox, swipes the precious fire away from three terrible monsters in order to save his village from freezing during the first winter that had ever happened in the world. Along the way, fox hid embers inside the hearts of all of the trees, so that human beings would always have a way to stay warm.

It's unlikely that the management plan for your woodlot is solely for firewood, but it is a nice benefit that you can harvest along the way. "You don't want to manage your woodlot for firewood, you manage for sawlogs, veneer wood, or whatever your main goals are," said John Hastings, retired DEC Forester. "The firewood you harvest is usually the lower quality stuff so that you have more room to grow your desired tree species. A good rule of thumb is one cord of firewood per acre of forest per year. If you burn three or four cords each year to heat your house, then three to four acres could produce all the wood you need for a season."

Environmentally speaking, firewood has many perks as well. According to studies done in 2003 and 2012 by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in Australia, firewood has lower greenhouse gas emissions than

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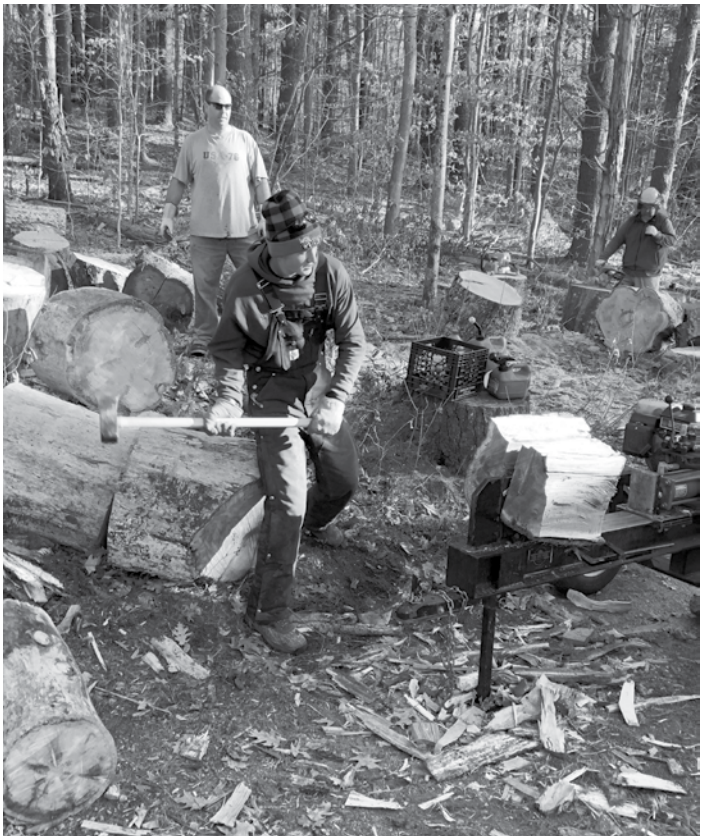

All photos are from the Cilley Family woodlot, firewood harvest 2019. All photos courtesy of Kate Ziehm, Morning Ag Clips.

fossil fuels. From a financial standpoint, the only cost to firewood is whatever it takes to harvest and transport from your woodlot, which can be lower than the cost of fossil fuels as well.

It's important to keep in mind that not all trees are created equal. "The highest heat values are in oak, hickory, or locust when you can find it," said Hastings. "Medium range is your maple, or beech, and lower than that is ash, cherry and species like that. Birch and poplar are towards the very bottom for heat value."

Before you start harvesting your woodlot for firewood, Hastings recommends that you touch base with a forester to adjust your management plan. "Most management plans have stocking charts based on the basal area of the trees," said Hastings. "Work with a forester to figure out the density of your woodlot and see how much you should remove during a thinning. Have them take measurements and do the marking so that you have the right density to maintain your crop trees. If you're managing for sawlogs for example, you're going to want to wait for the trees to reach a 22″ diameter. Veneer trees, you focus more on quality rather than size, but for both you want them to grow straight and clean. It's best to take out the competing trees of lower value."

While a firewood harvest right now won't keep your home warm this winter, as the wood needs time to season and dry, it's something to keep in mind for the future so that you can get the most out of your woodlot. To quote Thoreau, "As my driver prophesied when I was plowing, they warmed me twice — once while I was splitting them, and again when they were on the fire, so that no fuel could give out more heat."

Interested in learning more about management techniques or how to join New York Tree Farm? Reach out to your area chair; a list of the NYTF advisory board members can be found at *www.nytreefarm.org*.

The mission of the NY Tree Farm Program is to promote the growing of renewable forest resources on private lands in New York State while protecting environmental benefits and increasing public understanding of all benefits of productive forestry. This mission is shared by our national organization, The American Tree Farm System® (ATFS) which is a program of the American Forest Foundation. We are committed to sustaining forests, watershed and healthy habitats through the power of private stewardship.

Eric Jenks is a freelance writer with Morning Ag Clips, LLC. Morning Ag Clips is now managing the Tree Farm column.

Would you like to receive an electronic version of future editions of *The Forest Owner*? If so, please send Liana an email (lgooding@nyfoa.org).

You will receive an email every two months that includes a PDF file of the publication. While being convenient for you – read *The Forest Owner* anytime, any place – this will also help to save the Association money as the cost of printing and postage continues to rise with each edition.

Woodland Health

A column focusing on topics that might limit the health, vigor and productivity of our private or public woodlands

Coordinated by Mark Whitmore

Miscreants as Messengers

By Paul Hetzler

If you get bad news about one of your trees, kindly don't blame the messenger. Even if — especially if — they vandalize that very tree. It could save a lot of trouble, and possibly your life, to heed their memo.

Although it's captivating to watch a big prehistoric-looking woodpecker chisel away at a rotten snag in the forest, the same performance loses its charm when it jack-hammers a hole in your perfectly good tree. The thing is, no matter how healthy that tree may appear, it is definitely not sound,

Pileated woodpeckers are just messengers, not vandals. Photo by Nigel, Creative Commons.

Phellinus tremulae *conks on an aspen's denote trunk rot within. Photo by Andreas Kunze, Creative Commons.*

and may in fact be dangerous. Your "vandal" is alerting you to this truth by installing windows in the tree trunk.

Native to the eastern United States, southeastern Canada and a belt of Canadian boreal forest stretching to the Pacific coast, the pileated woodpecker (*Dryocopus pileatus*) is easy to recognize. Its prominent red crest is an attention-getter, but its size sets it apart as well. Assuming the ivory-billed woodpecker is extinct, our pileated is the largest in North America, at 40-49 cm long, with a 66-75 cm wingspan. Its body is mostly black, with a strip of white down the throat. Males and females are both red-crested, but the male has an additional red stripe on the sides of its head. Patches of white are also visible as it flies in its distinctive undulating pattern.

Pileated woodpeckers excavate large cavities in dead trees in which to nest — so large that the tree sometimes collapses at the nest site. They also "mine" dead trees for larvae and pupae of wood-boring beetles. But these birds have a special appetite for carpenter

Lovely conks and ugly heart rot are caused by Fomitopsis pinicola. Photo by Jason Hollinger, Creative Commons.

ants living in the decayed heartwood of live trees, which is what sometimes irks me when it seems that they're attacking a healthy tree in our woodlot, sugar bush, or backyard. As unsettling as it is to see wood chips raining down from your tree, that is the least of its problems.

It's tough work for woodpeckers to chop holes in wood using only their lips, so there's always a compelling reason, such as a tasty carpenter-ant core ensconced within that hard wooden shell. It's sort of the bird equivalent of a lollipop with a chewy center. Once we realize these professional hackers only break into a live tree if its trunk is packed with ants, it's logical to think we should kill those critters. The trouble is, that won't help — ants aren't the issue either.

In spite of their name, carpenter ants are unable to saw, drill, or otherwise excavate solid wood. Turns out these guys only have the chops for damp, rotted wood. They're so named (I'm pretty sure) because when they appear at home it means you need a carpenter, as opposed to an exterminator, to replace that crumbling sill plate, joist, or other hidden piece of decayed lumber. In houses, rot may be due to faulty window flashing or leaking roofs. Heartwood rot in trees, however, begins with an injury.

Ice storms, lightning strikes, porcupines and other natural injuries are unavoidable, but we cause loads of unnecessary harm. Root damage is a frequent but lesser-known conduit for decay to enter, which is why it's essential that land managers keep heavy equipment out of the woods in wet conditions. Flush-cut pruning is another type of careless and avoidable injury that can lead to internal decay.

As Peter Smallidge and others have written of in these pages over the years, trees wall-off (compartmentalize) wounds, making barriers to exclude decay organisms. A fascinating and superbly illustrated USFS bulletin by Dr. Alex Shigo, who extensively studied this "treemunity" process, can be found at: *https://www.nrs.fs.fed.us/pubs/misc/ne_aib405.pdf*

Whether or not a tree successfully compartmentalizes decay after an injury depends on its species and vitality, as

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A male pileated woodpecker admires his handiwork." Photo by Wikimedia Commons.

well as the wound size. Bur oak, sugar maple, and honeylocust are among the species which compartmentalize robustly, while poplar, birch, and willow appear to have missed the memo on how it's done. Obviously, poor soil, drought, defoliation and root damage curb a tree's ability to self-protect. But even the defenses of a top-notch (so to speak) tree can be overwhelmed by a large wound.

When a tree's defensive walls are breached, heart rot often ensues. It's a slight misnomer, as trees without heartwood (birch, beech, basswood) get it too. Also, depending on the fungal agent, sapwood can sometimes be fair game. In general terms, heart rot affects the non-living center section of trees, while the outer layers of water-conductive sapwood are exempt (if a tree is subject to a further large injury, sapwood can be jeopardized as well).

Broadly speaking there are two kinds of heart rot, white and brown. Brown rot, which decays cellulose only, is sometimes called dry-rot because that's how it looks by the time we see it, long after it's done its dirty work. While active, though, it has ample moisture. It is associated more with conifers, and you may recognize its blocky, brown, crumbly signature inside a windthrown tree. Eighty percent of wood-rot fungi are in the white-rot club, a thorough bunch able to eat lignin, the resilient "rebar" of wood, as well as carbohydrates. White rots are more common on hardwoods.

Over time, the biomass of these organisms will increase to the point that they send out fruiting bodies, spore-bearing conks that we've undoubtedly seen in the woods. *Fomitopsis pinicola* is a brown-rot fungus which produces a shiny red-belted conk, while *Phellinus tremulae*, a white-rot, results in the hoof-shaped conk sometimes found on poplars.

Pileated woodpeckers aren't after your tree; they're pursuing ant colonies. In turn, ants don't ruin your tree, but signal the presence of advanced decay within. Using insecticide on the ants will put all sorts of wildlife at risk, and is unlikely to eradicate the colony. Most importantly, it will do nothing to slow the inexorable march of internal decay.

Years ago I helped extricate a massive white pine from the attic of a house. It had snapped at about 30 feet and crushed the roof, harpooning good-size branches into the bedrooms below. It failed because of decay which had begun at an old wound and advanced. The ants present were but a symptom; if only a woodpecker had alerted the homeowner to the situation, disaster might have been averted.

If you see woodpeckers "vandalizing" your tree, be aware that decay lurks inside. You may want an arborist to evaluate it for mechanical integrity and overall health. Heartwood decay doesn't always mean a tree is doomed, but if it's destined to fall, best that it happens in a controlled fashion.

Regionally, around 40 bird species depend in some way on tree cavities. Primary excavators like woodpeckers and chickadees significantly reduce forest-pest populations during winter as they feed on insect larvae, pupae, and adults. Feeding sites and abandoned nest cavities are used by tree swallows, wrens, kestrels, owls, and many other resident and migratory birds.

Because snags are critical to such species, it's highly beneficial to leave dead forest trees standing when possible. Lower trunks of residential trees can be left when safety concerns allow. Not only does this provide key habitat, you may get a chance to observe bird species you otherwise wouldn't see.

Paul Hetzler is an ISA-Certified Arborist. He avoids trees and lollipops that have soft centers.

Mark Whitmore is a forest entomologist in the Cornell University Department of Natural Resources and the chair of the NY Forest Health Advisory Council.

Are you interested in a particular topic and would like to see an article about it?

Please send your suggestions to:
Mary Beth Malmsheimer, editor at mmalmshe@syr.edu
or
Jeff Joseph, managing editor at jeffjosephwoodworker@gmail.com

WFL Firewood For Charity Completes Season Five

By Dave Keebler

The WFL Firewood for Charity initiative, formerly Chainsaws for Charity, completed its fifth year on October 10th. This was the date that the Canandaigua rotary club picked up the first load of the season. The rotarians took 14 face cords and had it all delivered by the end of the day.

Firewood4Charity (F4C) did not work over the winter because of the virus shutdown. Prior to the shutdown, it was typical to have six or more volunteers working at one time and within six feet of each other. In addition people brought food items to share with one another during breaks while sitting in chairs and benches arranged in a circle in the quonset hut, none of which was allowed during the shutdown. Fortunately there were no firewood orders left to be filled when the shutdown began. A big plus for the operation was that Wagner Lumber delivered enough logs over the winter to meet the projected orders from the rotary clubs for the 2020 season.

When it was announced that restrictions were going to be lessened David Deuel made plans to begin operations. They were necessarily limited in order to comply with the constraints imposed by the government. The tasks however remained the same three as always — block logs, split blocks, and stack the firewood. Pre-shutdown, a crew of six would have two people with chainsaws blocking logs, one person moving the blocks to the gas-powered splitter, two people running the splitter, and one person stacking the wood. If there were more volunteers on a given day, they would help move the blocks and stack the wood, or perhaps use splitting mauls to move the process along.

When David made the constrained plan he had to consider that two people running the splitter would be within six feet of each other. He also had to consider that the stacker would routinely come within six feet of the splitter operators as would the people moving the blocks to the splitter. On days when a couple volunteered they could manage the splitter and the stacking, but of course production would nevertheless be hampered by the government required constraints.

Looking at the process and taking into account the configuration of the log yard it was decided that to comply with government directives volunteer crews would have to be limited to four people. Three would man the blocking, splitting, and stacking positions. The fourth would float between the positions doing whatever would be needed at any given time — moving blocks, helping pile the splits, and so on. People moving the blocks and doing the splitting and stacking would have to establish a routine of work/standby/step back so that each could do their job and still maintain social distancing. This would meet the government standards and allow limited production. To compensate for lower production, two workdays a month were added to the schedule. Mornings every Wednesday and the second and fourth Saturdays of the month were designated to be workdays. Previously it had been only two Wednesdays and one Saturday a month.

In order to manage the crew size volunteers would contact David directly. When there were more than four volunteers, he planned to have them in at additional times (i.e., afternoons on workdays after the normal regular morning crew had left). So there you have it — a perfect plan for achieving all objectives within the imposed constraints.

Mother Nature however had other plans. We have experienced a hot, hot summer that has been sprinkled with heavy rain storms. As fate would have it the rains often came on days scheduled for work, so it had to be cancelled. Other work days were cancelled just because of the unbearable temperatures. It would simply be too brutal to stand over a hot gasoline engine splitting wood in the intense heat. A new work flow, which replaced the sequential-station model, evolved from these circumstances. Volunteers, limited to four or less, arrived early in the morning and split blocks by hand using splitting mauls. They moved their own splits to the wood pile. This independent work style allowed every volunteer to work at their own pace. They were also free to take breaks whenever they wanted as the flow of other workers would not be interrupted. David made blocks during the off days, or a volunteer that wanted to would block some logs on workdays and join the splitters latter. One new rule was created; once the sun peaked over the tops of the silos, thereby removing all shade, work ended.

This technique proved to produce a fair amount of firewood. Early in September the racks were filled up with 40 face cords. There was no more room at the inn, so David closed down production and had the rotary clubs contacted to arrange their pick up dates.

If you would like to volunteer, contact David Deuel at *dsdeuel@gmail.com*.

Member Profile:
Frank Winkler

By Jeff Joseph

One of the great benefits of the member profile feature over the years has been the diversity of knowledge and experience shared with the entire membership, and thereafter archived for future reference. As we can't currently all be out visiting with and learning from each other in person in the midst of the COVID-19 pandemic, the generosity of members sharing their stories in the *Forest Owner* continues to provide one of the primary teaching tools in NYFOA's toolkit—peers educating peers based on hands-on experience in their own woodlots. The member profile this time out is of Frank Winkler, who as a long-time natural resource educator, and with a life-long connection to his wooded property, provided a wealth of information and lessons learned far above and beyond my request, only the highlights of which we will have space to cover here.

The Winkler family woodlot lies northwest of the Catskill Mountains, on Dingle Hill, in the Town of Andes in Delaware County. It was originally purchased by Frank's parents in 1944, as part of a 220 acre, 30 cow dairy farm that Frank's father worked until his retirement in 1973. Early on there were a few timber sales held to help subsidize building a house on the property, as well as to help in supporting a growing family. Several small house lots were also sold off to support the Winkler parents in their retirement years. When his parents passed away, the land was divided between the Winkler children, and Frank eventually bought half of the original farm outright, including most of the wooded acreage, built a cabin there in 1987, and finally moved back to the property in the year 2000. Today Frank's land totals approximately 110 acres, with about 100 acres of that total in woodland.

The woodlot is on steep land, varying in elevation from about 1800 to 2560 feet, and lies with a predominantly northeastern exposure, leaving it shaded for much of the day in wintertime, and thus unsurprisingly much colder than the surrounding landscape that has better exposure to direct sunlight. The soils are productive for timber growth, despite being shallow to bedrock, and with a fragipan that restricts drainage.

As for the timber resource, it consisted primarily of pole-sized stock at the time it was purchased, and is currently populated by maturing white ash, sugar maple, red maple, black cherry, beech, yellow birch, basswood, with a lesser amount of red oak in the mix, along with striped maple, ironwood, and elderberry, blackberry, and (on the invasive side of things) Japanese honeysuckle in the understory.

Frank with a seven year old red oak transplant, protected with a 5' tree tube.

In his years spent away from the family land, Frank earned a degree in crop and soil science, which prepared him for a career in natural resources. He spent 32 years working for the USDA-Natural Resources Conservation Service (NRCS) as a resource conservationist, and later an additional nine years in a similar position as a part-time Conservation Planner for the Delaware County Soil and Water Conservation District. In each of these roles, Frank was charged with providing service to the farming community with the broader aim of protecting and enhancing water quality. These goals were met by finding and implementing ways of keeping soil resources, commercial fertilizers, manure, and pesticides on-farm, with plans aimed minimizing soil erosion, reducing fertilizer and pesticide applications to minimum levels necessary, and with appropriate timing of those applications, and by establishing stream buffers to get livestock and crops away from stream edges. As this work also often involved cost-share programs, farmers received dual financial benefit—from the conservation practices themselves (and the increased efficiency resulting from their implementation) as

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well as through the government subsidies to encourage participation in these conservation regimes. After thoroughly enjoying this career of service, Frank has since retired, but has been anything but idle in the interim, and in fact his career provided him with a very sound basis upon which to develop his management plans and goals for his woodlot.

After extensive time spent deer hunting on his land in the early years, which gave him lots of time to simply observe and so to begin to understand the dynamics and ecology of his woodlot, Frank began actively managing his timber by engaging in TSI (timber stand improvement) work in his woodlot during a brief stint as an unemployed college graduate in 1974. He received some cost-share funding, and DEC assistance in marking the thinning, and in his words, in the intervening 46 years, he simply "never stopped," to the point where he now estimates that he has completed TSI on about 85% of his acreage. He enrolled in the 480a forest tax law program in the mid-1980's, and conducted his first timber sale in 1997, when he could clearly see the positive results of all the efforts toward thinning his stands paying off. A second harvest was undertaken in 2012 due to an extensive blow-down in the fall of 2011, and a third harvest was conducted in 2018-19 in order to harvest all commercial-sized ash before the immanent arrival of EAB (emerald ash borer), during which a few ash trees were in fact found to be infested with EAB. Frank envisions the next harvest to occur around 2028, as his stands continue to put on good growth as the result of the thinnings.

Through the efforts of over 45 years of management, and 35 years of ownership, Frank and wife Vickie have netted approximately $122,000 in pre-tax timber sale revenue since the 1997 harvest—funds which he and Vickie gladly directed toward sending their two children to college, home improvements for themselves and their children and their families, as well as a few cross-country vacations. Additional financial benefits have been realized through cutting firewood to reduce heating costs, as well as hunting deer for their personal consumption. Frank cites all the exercise from his ongoing regimen of woodland management as being yet another significant benefit, and also views his time getting away from the world and being in the woods as a vital form of therapy and relaxation.

As for his involvement with NYFOA, Frank estimates that he first joined in the late 1980's, when he was an active participant in the activities and woodswalks of the Western Finger Lakes (WFL) chapter; he is currently a member of the Southern Tier (SOT) chapter, but has been somewhat less involved in chapter activities due to the travel involved from his rural location. Frank is currently a member of NYFOA's board of directors, and is also active with the Catskill Forest Association, and has helped to develop several joint activities of woodswalks and sawmill tours between the two organizations. He is also involved with the Watershed Agricultural Council, serves on his local planning board, and since 2007 has shared his experience as a volunteer with the Master Forest Owner (MFO) program. In his words, describing his involvement with multiple conservation-minded organizations with somewhat differing objectives: "I've tried to helped integrate certain activities that have been effective from one association to the other. My emphasis has been on trying to get people to develop a better understanding of their forest resources, and to manage this resource to meet their needs, as well as wildlife needs, all while enhancing the environment overall," which as he affirms dovetails neatly with his professional career objectives.

In the realm of offering advice to fellow forest owners, Frank clearly has a LOT of value to share, all backed by extensive experience; the following are some of the highlights, in his own words, and summarized by topic:

First thing first—on safety in the woods: "Always think safety; especially with power equipment like chainsaws, tractors and ATVs. They are required tools for most of us, but can turn good intentions to tragedy in seconds. Get training, use the training, don't go too fast and don't operate power tools when fatigued. There are other less stressful chores that you can still do. Everyone should take at least Level 1 of the Game of Logging regardless of how long you have operated a chainsaw. Like many of us I have the scars and scares from years of chainsaw use. I've been lucky. I never run a saw without a hardhat, ear protection, chaps, good shoes or when exhausted."

On timber stand improvement: "There was some cost-sharing, but most was done by myself without a forester's assistance. It's not hard to do improvements with a chainsaw once you know your trees. Most of us will leave too many trees for ideal growth, but it still will push good growth to the best trees. Always start working in the area with the most potential. I have dropped hundreds of low-grade trees to decompose on the forest floor. This helped seedlings regenerate, helped wildlife, and resulted in no residual tree damage from heavy equipment. I have had successful timber harvests because of the TSI I have done over the years."

On the use of foresters: "I think there are many capable foresters available in NYS. You need to find one who shares your concerns. The better informed you are the easier it is to find one that meets your needs. Foresters have different levels of expertise when it comes to marketing, implementing timber tax law 480a, wildlife, or commitment to work with you to attain your goals and protect natural resources. My forester is very knowledgeable, but would not be suitable for everyone. I like his ability to get top dollar on timber sales, and service provided with the 480a plan. I also need to clearly state my goals and question his actions to ensure goals are met. The more knowledge a landowner has, the better the results. I do recommend that foresters be hired by the hour or by the acre when selling timber. Working by percentage can influence how the timber gets marked, such as marking too many trees or leaving the culls behind."

On forest tax law (480a): "Land values have climbed rapidly and so have property and school taxes. The NYS forest property tax law, 480a, has been a significant help in reducing my tax burden. It is not an easy program to comply with, but with about an 80% reduction in taxes on forested land, you have to expect a commitment in time and money to participate. It has been easier on me since I can do my own required TSI work. Don't get into the program if you are not willing to make a long-term commitment and understand the work involved: penalties to get out early are painful. At the time of harvest there is a 6% stumpage fee that must be paid to the

county. I now stress heavy cull removal when a timber harvest is made to reduce the need for future TSI work."

This one is interesting—compromise: "*Or nothing gets done*. When managing a woodlot you quickly need to learn to deal with the cards you have. Trees are rarely spaced ideally when you do TSI. All trees will not be at the ideal size at the time of harvest. The best species are not always there. Mother nature will change your plans with a blow-down, diseases, or rainfall events. It's not always possible to tie a harvest to strong markets. Personal problems may dictate marketing. Management that's good for some wildlife will be detrimental to another. Trails cannot always be placed in ideal sites because of bedrock outcroppings, wetlands or skidder requirements. Town roads must not be abused by heavy loads during certain times of year. Work with your forester. Set your realistic priorities in a written plan, and then implement the plan. Many times a bit of luck helps overcome obstacles. Emerald ash borer will probably require me to amend my plan before the next scheduled harvest in 2028."

On timber sales: "My hours of work in the woods have had their financial rewards. I have had two successful sales managed by my forester. He marked and measured each tree, developed a bid and sent it out to dozens of potential bidders. After bids were received and bidder selected, he prepared a written contract with performance requirements- things like landing site location, protected areas, time constraints, insurance requirements, waterbars, stream crossings, clean-up and seeding. Full payment had to be made before any harvesting. The forester held a $5,000 bond until everything was completed as planned. During harvest develop a good relationship with the crew. Let them know you care about your woods and about their welfare. Mutual respect goes a long ways toward attaining everyone's goals."

On trails and trailbuilding: "Forest trails are one of the most important forest features. If you have more than just a few acres, a good trail system is a necessity. It's hard to enjoy your land if you cannot readily travel within it. If you need to do any work with a chainsaw, trails are needed; and at time of harvest a good trail system makes for an efficient harvest and good trails for future use. Work with your forester and logger to achieve a good network of trails. The old saying is very important- 'Keep trails out of the streams and don't allow streams in the trails.' Properly installed waterbars are vital for long term road use. Work with your forester and logger to get them installed properly. Make sure the waterbars are shaped and located so that you can safely cross them with your equipment. Immediately after the trails are finished I seed them, if between spring and October 10. Immediately means before the freshly graded trail is rained on. I would delay late fall and winter seedings until snow melt in spring, but while the ground still freezes and thaws so that the seed will settle into the soil. Few people seed trails, but as a resource conservationist I want to quickly stabilize the soil, and protect my access network, while providing a food source for wildlife. I have not used fertilizer. I think there are enough available nutrients in the soil. I could be proven wrong (at least in places.)

On ponds and pond building: "Ponds are an enjoyable feature. There's something about a water feature and the wildlife it attracts. I have a few pond construction tips to help overcome common mistakes. Get an experienced contractor. Get references. Tell him he/she must install a core trench. If they don't know what you are talking about, they probably do not have the proper knowledge to build a pond that doesn't leak. A core trench disrupts any permeable layer in the subsoil so that water does not flow under the berm. A soil test should be done to ensure that soils are suitable to hold water. This frequently isn't a problem in the hills of the Catskills, but in other areas soils are too permeable to hold water. In those situations only a dugout pond into the water table will work. To reduce weed problems like cattails minimize shallow water under 3-5 feet deep. If you want trout, you will need to have depths of over 10 feet and either some springs in the pond or flowing into the pond to keep water temperatures cool. Bass seem to tolerate most anything. If you plan on mowing around the pond keep slopes to no steeper that 4 to 1. If you want to maximize habitat for ducks and other wildlife have plenty of shallow water and leave large areas undisturbed with shrub vegetation (perhaps mow once every 3-4 years.) Pond outlets must be able to function and remain stable during extreme rainfall events. There are several good publications available for guidance from the Catskill Forest Association, Soil and Water Conservation Districts, Cooperative Extension, and online."

On deer: "Deer viewing is enjoyed by most everyone. Their ability to survive is remarkable. How do they ever make it through deep snow, sub-zero temperatures, and with coyotes in pursuit? I view deer as a valued addition to the enjoyment of our property. However, they must be controlled, if other parts of the ecosystem, and they themselves are to be successful. Deer numbers cannot exceed the carrying capacity of the land. Too many deer lead to only plant growth that deer will not eat or cannot reach. Invasives take over the landscape. Many other forms of wildlife can't survive in an area over-browsed by deer. Regeneration of many desirable tree species becomes next to impossible. Deer numbers must be kept within desirable numbers to maintain a healthy forest habitat. The only practical tool to control deer abundance is hunting the females. Coyotes, bears and bobcats can have a major population impact in some areas in some years. I may be lucky to have plenty of bear and coyotes assisting with controlling deer numbers on my hill. However, regulated deer harvests need to be used to keep deer numbers within the carrying capacity of the land. Our family harvest about two bucks and one or two does each year."

Unfortunately, space prohibits me from sharing a great deal of the information Frank sent to me in response to the request that he be interviewed for this profile. To conclude, when asked what he enjoyed most about being a woodlot owner, he replied "I love just being in the woods and seeing wildlife, and how my management activities have helped create a productive woodlot." And when asked how his membership in NYFOA has benefited him as a woodlot owner: "I've enjoyed the many workshops, publications, and friendships I've made over the years. I'm a better woodlot manager and hope to leave a very positive benefit to my family's piece of this earth." Of that there is little doubt.

Jeff Joseph is the managing editor of this magazine.

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