# The New York Forest Owner

A Publication of The New York Forest Owners Association

*For people caring about New York's trees and forests*

November/December 2018


*Member Profile: Eric and Eleanor Randall*

*Volume 56 Number 6*

NYFOA
New York Forest Owners Association
www.nyfoa.org

# In This Issue . . .



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A Publication of The New York Forest Owners Association
Volume 56, Number 6

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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. For the Randalls, woodlot management and maple production are only part of the effort. The opportunity to share a bit of knowledge, or a detailed discussion, is an essential part of being a good steward. For member profile see page 21. All photos courtesy of the Randalls.

# From The President

Over the last few months NYFOA has been working on several broad initiatives that will positively impact our forests and will continue to improve our member's ability to provide sound forest stewardship.

Those stewardship skills will continue to allow our forests to provide clean water, improved wildlife habitat, on-going recreational opportunities, and wood and wood products that are essential to meet society's everyday needs.

The Restore New York Woodlands initiative (RNYW) continues to move forward. As an initial part of the program a number of potential deer management recommendations to reduce deer impacts on forest ecosystems will be identified. In conjunction with a cross-section of conservation and science-based organizations, all recommendations will be reviewed and potential solutions will be proposed to reach the goal of improved forest regeneration. Jerry Michael continues to chair this committee and his efforts are invaluable to the future generations of our forests.

NYFOA has also recently participated in a forum to review and identify opportunities for improvement in the 480-A Real Property Tax Law program, as currently constituted. Many forest related organizations participated including CFA, CCE, ESF, ESFPA, NYCIF, SAF, WAC, DEC, Audobon, TNC and others. A number of issues that could improve and streamline the program were identified and discussed. The stakeholders and DEC agreed to continue this joint effort to determine potential regulatory changes to achieve efficiencies. It will be a long process, but the anticipated outcome will be well worth the effort.

The board recently approved a new life membership category for NYFOA. Ed Neuhauser has an article on page 11 of this issue detailing the change. We are hoping that this alternative will be attractive to a number of our members.

Our chapters continue to provide educational opportunities to our members and potential members through woods walks and conferences. If you haven't participated recently, please check out the many programs NYFOA provides on our web-site (many thanks to Jim Minor our web-master for maintaining NYFOA's excellent site). The Lower Hudson Chapter (LHC), under Chris Prentis' new leadership has had, and will be offering, programs in the lower Hudson area. Those LHC members and non-member forest owners will have new opportunities to learn through NYFOA's unique peer-to-peer program.

Lastly, take some time to just enjoy your woodlands. Each season brings a different perspective to the forest and it never gets old.

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

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County of Residence: _____
County of Woodlot: _____
Referred by: _____

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( ) Individual/Family $45

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## 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 |
|---|---|
| Scott Albrecht | SFL |
| Bruce Boissey | NAC |
| John & Christina Buck | SOT |
| Antigone Darmanin | LHC |
| Richard Gilchrist | NAC |
| Dan Ladd | SAC |
| James Lahti | WFL |
| Paul Mizer | CNY |
| Richard A. Mosier | WFL |
| Rick Roach | CNY |
| Rebecca Shelley | SOT |
| Randy Taylor | CDC |
| James Thoman | NFC |

# The Elephant in the Room – An Update

Jerry Michael

The last issue of this magazine described the impact of deer on forest regeneration and NYFOA's plans for addressing the issue under the auspices of our Restore New York Woodlands (RNYW) initiative. The title of the article was "The Elephant in the Room is the Deer in the Woods."

Recognizing that solutions will require input and support from many different constituencies, we have invited numerous forest stakeholder groups to join our effort. Those agreeing to partner with us to date include: Audubon NY, Catskill Forest Association, Empire State Forest Products Association, NYS Conservation Council, NY Farm Bureau, NY Maple Association, NY Tree Farm, Quality Deer Management Association, Society of American Foresters, The Nature Conservancy, and the Watershed Agricultural Council.

A steering committee was organized from within our partnership and met in September to establish the following goals for our initiative:

. Ensure deer populations are at levels that are appropriate for human and ecological concerns,
. Improve forest regeneration throughout NY state by reducing deer impacts, promoting sustainable forest management on private lands, and addressing interfering/invasive vegetation when necessary.

The steering committee also assembled, and prioritized through a survey, fourteen suggested regulatory and/or legislative measures that might help address the deer impact issue. We will be meeting with the staff and management of the NYSDEC Lands & Forests and Fish & Wildlife divisions on October 31st to review current and future NYSDEC strategies and to discuss the suggestions offered by our partnership.

Because the next issue of *The New York Forest Owner* will not come out until January, we may inform the membership of results from the NYSDEC meeting via email or on the website. If it is decided that legislative action is required for some measures, we may request NYFOA membership to seek support from their respective representatives before year-end.

**Results from Hunting Access Incentive Survey**

Increasing access to private property for hunting purposes has been considered an important means of reducing overall deer populations, and several states have incentive programs to further that goal. Last August we sent an email survey to the NYFOA membership, requesting their input on the proposition. We received 46 responses and here is a summary of what they told us:

. Twenty-six members said they would only permit hunting by family, neighbors, or close friends, and that incentives would not influence their decision.
. Four said they only permit hunting through firms that broker hunting leases.
. Five said they would allow hunting by "anybody who would shoot does."
. Eight said they would not permit hunting under any circumstances.

The major concerns expressed were safety (small woodlot/close proximity to residences), property damage/litter by irresponsible hunters, and liability issues.

Several respondents said that the only meaningful incentive would be significant property tax relief. Although the sample size of respondents was relatively small, based on the results, increasing hunting access through incentives will not be near the top of the list of suggestions we take to the DEC.

Thank you to the NYFOA members who took the time to share their thoughts with us.

*Jerry Michael is a member of the NYFOA board of directors and chair of the Restore New York Woodlands committee.*

Would you like to receive an electronic version of future editions of *The New York 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.

# Ask A Professional

PETER SMALLIDGE

*Peter Smallidge*

*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*

## Managing Woodlands to Improve Wildlife Habitat

**Question**: My woodlot supports a variety of my interests, but I'd like to do more for wildlife. What can I do in the woods to help support wildlife, and other interests such as firewood, timber and recreation? (James A., CDC)

**Answer**: Most landowners own their land for a variety of reasons, though at any point in time one objective might be of more interest than other objectives. For many woodland owners, they are interested in seeing more wildlife, whether as birds or game species, or just knowing they are providing habitat. Some owners prioritize creating habitat that they know will benefit wildlife, regardless of what they personally see. As a side note, motion-sensitive trail cameras have become reasonably priced and allow you to see more wildlife (Figure 1). The interest in wildlife for these owners may be one of many objectives including recreation, firewood or timber.

The objectives of wildlife, timber, firewood, and recreation are common, and usually compatible on the same property. This article will address some general guidelines and strategies, but numerous resources exist to expand on the concepts presented here. There are several good publications that will help landowners who want to manage their woodlands for wildlife habitat. See the reference section at the end for a couple of options.

### Getting Started Managing Woodlands for Wildlife

The starting point for "what should I do?" is always "what do you want?". Knowing your objectives provides targets, and also priorities for actions. Some portions of your land may be more suitable for some objectives than others, so emphasize management actions in areas where you will receive the greatest return on your investment of time and resources. If you don't know your objectives, think about what you want, tangible and intangible, from your property. Your spouse should go through the same exercise, and perhaps your children who are interested in the property. If there are several people involved in the ownership, it might be helpful to sort out objectives that are essential, and those that are of significant interest.

With wildlife as a priority, it is worth keeping in mind that wildlife need food, water, cover, and space. Food and water are obvious at some level, but the details about what species need what types of food and how far they travel for water are important. Cover are those parts of your woods, fields, and hedgerows that allow animals to rest, breed, hide, loaf, and travel (Figure 2). Space allows for the freedom of a species to move within its territory without having to compete with other members of the same species for food, water, and cover.

The needs of each species for food, water, cover, and space are its life


*Figure 1. A trail camera, placed strategically at an intersection of varied cover, structure, and water (see text for definitions) captures a reality of the interaction of predator and prey. Here, the coyote was successful, but more often they consume small mammals and have almost no impact on deer. (Photo credit L. Payne)*

*Figure 2. Downed woody material, also called slash, is one example of cover. A variety of small mammals and amphibians would benefit from the security this provides, and the access to different types of foods. Owners who harvest firewood can remove less of each tree and easily create this type of cover. (Photo by M. Ashdown)*

history traits. The life history traits for one species are covered in detail in each issue of the *NY Forest Owner* magazine in the column "Wild Things in Your Woodlands." Review your back issues, and those at *www.NYFOA.org* for details. There are also descriptions of life history traits in the references below, or through internet searching.

Once you know what you want, you can begin the process of planning. The resources listed below as references offer considerable guidance on the planning process. It is also possible to contact a NYSDEC forester and ask for a (free) stewardship plan, where the plan will document the full variety of your objectives and management actions you can take. You will learn more in your interaction with the forester if you go through some of these steps first, so you understand what the forester is doing.

An essential part of planning, and a common shortcoming of the otherwise best laid woodland plans, is for the owner(s) to self-assess what they can bring to the effort. One way to assess your capacity is with T.I.M.E. This acronym represents Time, Interest, Money, and Energy. You will need some of each, but a shortfall in one category can often be offset from another. Be honest and realistic. Most landowners are most needy of time. Check with other woodland owners through groups such as the NY Forest Owners Association to see if your anticipation of the time required to do certain tasks is reasonable.

The planning process includes the following steps:

1. Map the property. You can do this with online tools such as Google Earth Pro, and include soils information through

*continued on page 18*

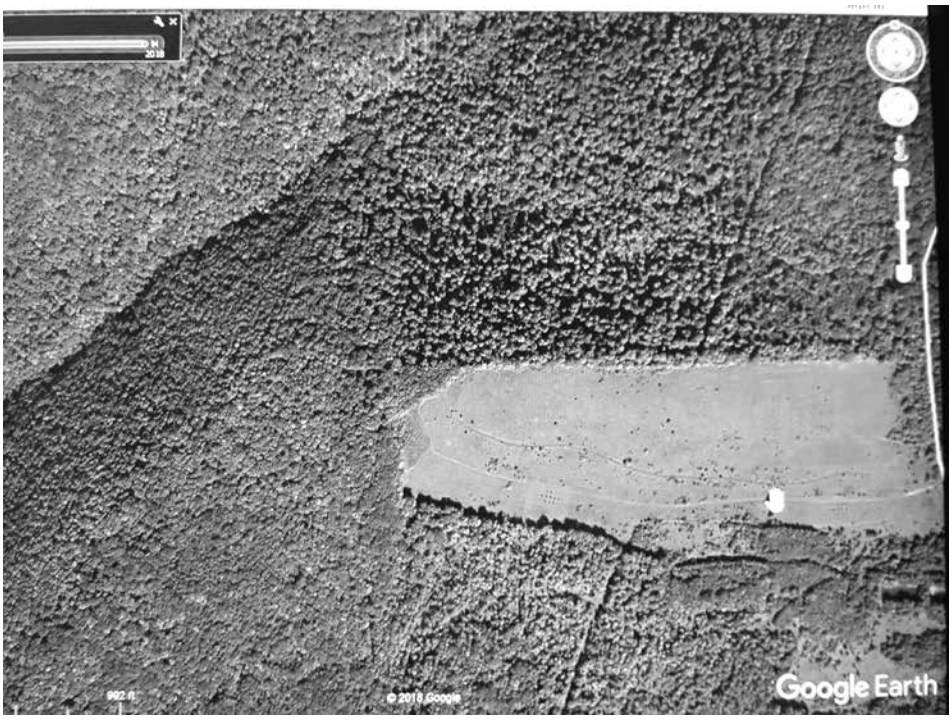


*Figure 3. A satellite image from Google Earth Pro shows considerable details, such as the field, the linear corridor of a utility right of way, and the coarse texture of a previous harvest in the area north of the field.*

*Figure 4. This picture shows a type of structure found following a clearcut. The trees are young, and thus relatively short with an average diameter of a few inches. Consider the structure (tree height and diameter) of a mature forest. Both types, and others, are important for wildlife.*

# Wild Things in Your Woodlands

Kristi Sullivan

## Black-capped Chickadee (*Poecile atricapilla*)


*The black-capped chickadee is a small songbird with a short bill. Male and female chickadees look alike, with a black cap on the head, a black bib, and white cheeks. They are mostly grey on the wings, tail, and back, and they have buff colored sides.*

As the weather grows colder and snow begins to fall, black-capped chickadees remain active symbols of nature, even on the coldest winter days. Common year-round residents in New York state, chickadees survive the winter by roosting in dense vegetation and tree cavities. On cold winter nights, these small birds sometimes enter a state of regulated hypothermia, dropping their body temperature 18 - 22º F below normal daytime temperature. By doing so, they conserve a great deal of energy.

Insects form a large part of the chickadee's diet, particularly in the summer. In the winter, they rely more on seeds and berries. As such, chickadees are one of our most common birds at feeders. Research has shown that, especially during the fall, chickadees will hide food under bark or dead leaves, or in knotholes. Later, when food is scarce, they return and retrieve the hidden food items. They are able to remember thousands of hiding places for up to a month! During fall and winter, chickadees often flock together to feed, and may flock with other species including titmice, nuthatches, brown creepers, and kinglets.

Chickadees live in wooded habitats of all kinds, including deciduous and mixed deciduous/coniferous woodlands, open woods, old fields, parks, and neighborhoods. They are most abundant along forest edges. Chickadees will excavate nest cavities in dead trees or dead tree limbs by pecking away rotting wood. They will also use old woodpecker holes if available, and sometimes will use nesting boxes if natural cavities are not available. The male and female both work to excavate the nest cavity, though the female alone lines the nest cavity with moss, feathers, plant down, hair, and insect cocoons. Once the cavity is lined, the female lays 6-8 eggs, which she alone incubates. The male feeds the female while she is on the nest, and both parents feed the young after they hatch.

Forests with between 50 and 75 percent canopy closure, and a well-developed middle and lower canopy layer, are optimum habitat for chickadees. The abundance of leaves under these conditions attracts insects that provide food for these birds. Because black-capped chickadees nest in tree cavities and can only excavate a cavity in soft or rotten wood, landowners can create ideal breeding habitat by managing to provide two snags (trees that are dead or partially dead) per acre between 4 and 10 inches in diameter. Snags provide holes, or cavities, in which chickadees and many other species can roost or nest and will help keep your woods alive year-round with the sights and sounds of bird life.

*Kristi Sullivan Directs the New York Master Naturalist Volunteer Program and works as an Extension Associate in Cornell's Department of Natural Resources.*

Please share this magazine with a neighbor and urge them to join NYFOA. By gaining more members, NYFOA's voice will become stronger!

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* Minimum order is 25 signs with additional signs in increments of 25.

# News from New York Tree Farm Program

By Mary Jeanne Packer

## Woods, Wildlife, and Warblers program set to expand into eastern New York State

The Woods, Wildlife, and Warblers program, which began in southern Vermont in 2016, will be expanding into NYS's Upper Hudson and Lake Champlain watersheds and all of Vermont in 2019. The long-term goal of this effort is to promote management of public and private forests to increase forest diversity and health and to improve habitat for multiple bird species.

The Woods, Wildlife, and Warblers program in Vermont relies on the strengths of several organizations including the American Forest Foundation, Audubon Vermont, Vermont Woodlands Association, and the Vermont Tree Farm Committee. The New York State counterparts of these organizations, including Audubon New York and the NY Tree Farm Program, recently received funding from the National Fish and Wildlife Foundation to use for implementing the Woods, Wildlife, and Warblers program in NYS.

The project will sustain engagement of family forest owners and assist them with accessing technical and financial assistance to implement recommended forest management actions on their lands. Additionally, the project will restore early-successional habitat for American woodcock and golden-winged warbler and improve late successional habitat for wood thrush and black-throated blue warbler. The project will also develop a pilot program with International Paper that prioritizes procurement of fiber from forests being managed with bird-friendly techniques, thus providing an incentive for implementing appropriate management.

Kathleen Wanner, the Tree Farm Program administrator in Vermont said, "Reaching, engaging, and providing wildlife-oriented technical assistance to family forest owners is the strength of the Woods, Wildlife, and Warblers collaboration." Building on the interest private forest owners have in wildlife, the NYS project team is planning to conduct a series of workshops and webinars targeting private forest owners in the project area. The project team will work with the American Forest Foundation to create and use proven engagement tools and approaches.

*Golden-winged warbler. Andrew Spencer, Macaulay Library.*

Young forest habitat is an important component of a diverse and healthy forested landscape. Several species of birds require young forest habitat for nesting, but they also require older forest for brood-rearing habitat and other purposes. According to Audubon New York, "Research from the past decade has also confirmed that many birds that nest in mature forests preferentially use young forest as post-fledging habitat for their young, which appears to increase survival of fledglings. To have an intact forest breeding bird community, forested landscapes must include patches of young forest habitat. Young forest habitat can be created by appropriate application of even-age silvicultural techniques, such as clearcuts, clearcuts with reserves, and seed tree harvests."

"Mature forest habitat normally dominates a healthy forested landscape, potentially providing required breeding habitat for numerous species of birds," say Audubon New York biologists. "However, many mature forests within the project area lack specific habitat characteristics necessary for them to serve as high quality habitat for

*Continued on next page*

these species. For example, mature forests need to have well-developed understories, canopy gaps, large-diameter trees, and other characteristics to provide quality bird habitat. Silvicultural techniques that can be used to improve mature forest habitat include shelterwood, group selection, and single tree selection harvests, in addition to other techniques."

Landowners newly engaged through this project will be contacted by Audubon NY biologists who will conduct site visits and provide recommendations for management to create early-successional and mature forest habitat. By the end of the two-year project period, it is expected that at least 800 acres of young or potential young forest habitat will have been assessed and 265 acres of young forest habitat will have been restored. It is also expected that at least 7,000 acres of mature forest will have been assessed and 900 acres of mature forest habitat will have been improved through management.

The Woods, Wildlife, and Warblers project will help to connect family forest owners in NYS with existing programs that can help them secure financial incentives necessary to undertake young forest work, such as the USDA NRCS Young Forest Regional Conservation Partnership Program and the USFWS Private Partners program. Some bird-friendly forest management in mature forests is financially viable; and that alone can help incentivize landowners to take action. The pilot program that will be developed with International Paper as part of the project is also expected to provide a market-based incentive for management in both early successional and mature forests.

*Learn about the NY Tree Farm Program at www.nytreefarm.org or contact the office on 518-854-7386 or email nytreefarm@gmail.com.*

*Mary Jeanne Packer is the NY Tree Farm Program Administrator.*

# New Membership Option

Ed Neuhauser and Peter Tonetti

There are some things in life that most of us would just like to pay off once and for all and be done with it. If you have paid off your mortgage on your house, think of what a relief that was. There are a few organizations that we participate in where we strongly believe in their mission and would like to make sure we offer continued support for a lifetime.

The NYFOA board of directors would like to offer members the opportunity to support the organization with a Life Membership. The board is proposing that we try this membership option for a period of 3 years to see the response from the members.

Life Membership to NYFOA will cost $500. This means that you pay your NYFOA dues once and you will never have to think about it again.

With my own sometimes lack of organizational abilities, I am often wondering if I have kept up on all my bills. Sometime I only realize that I have not paid something when I no longer receive a publication that I was expecting. So this is a good way to make sure that you will not miss out on every issue of the *Forest Owner* and chapter newsletters.

For the NYFOA staff, you will save the organization the expense and time of sending out annual renewal notices. Now instead of sending in your annual renewal, you could consider contributing a little more to the annual appeal to help support an organization that is important to you. NYFOA relies on the extra contributions from members for a substantial portion of our operating expenses.

So consider joining us in paying your dues to NYFOA once and provide a lifetime of support to an organization that you believe in.

Please share this magazine with a neighbor and urge them to join NYFOA. By gaining more members, NYFOA's voice will become stronger!

# State of our Forests

Mike Zagata

*This article was originally published in serial form in the Hometown Oneonta newspaper. It has been condensed and edited for publication here.*

Has our goal of preserving our forests worked and, if so, has it been good for the wildlife that depend on them? In pre-white settlement times Native Americans realized the best hunting was in areas recovering from fire because there was food at ground-level within reach of deer and other food sources. That food was in the form of green vegetation and fruits that responded when the canopy was removed and allowed sunlight to reach the forest floor.

White settlers brought farming skills with them from Europe and thus began clearing the forests in order to plant crops and graze their cattle and sheep. They no longer had to rely solely on their hunting skills for food. If you look at photos of the upstate New York area from the early 1900s, you will be shocked. There were few trees left standing and sheep were grazing the hilltops.

Fortunately at this latitude, if the land is left alone, the forests will return on their own, and that's what happened. The pendulum swung from a "manifest destiny," conquer all mentality to one of a conservation ethic and eventually to one of "preservation".

Today's biggest threats to our forests as we know them and the wildlife that depend on them may not be fragmentation and insects/disease. Instead they might be much more insidious – aging and deer. The aging results from forest succession – a process whereby short, shade intolerant plants are replaced by taller, more shade tolerant ones. For example, if you don't mow your lawn for a year or so, "weeds" will begin to replace the grass. Soon those weeds will consist of plants with woody stems like blackberry and they will shade out the grass – which could be a good thing as you won't have to mow it and burn those nasty fossil fuels in the lawnmower! Over time your lawn would become occupied by trees, the seeds of which couldn't grow in the shade of the adult trees that produced them (shade intolerant). They too would be replaced, albeit by trees that produce seeds that can germinate and prosper in the shade of the adult trees. These trees would be called "shade tolerant" and thus could—unless cut, blown down, or burned—perpetuate themselves indefinitely.

That might sound wonderful, but what about the wildlife species that lived in those younger, shade intolerant stages? They would literally be evicted from their homes or habitat. We can't rely on nature to blow or burn the forests on a predictable schedule, so we rely upon man via logging to turn back the clock and create young forests. However, due to a misperception about clearcuts on the part of the public and the fact that not all trees have equal commercial value, the logging has, over generations, removed the high-value trees and left the lower value ones. This has created a problem for both the landowner and wildlife, because without some form of government incentive or new market for that wood, the landowner can't afford to cut the lower value trees. Biomass for fuel may just be such a market, as evidenced by Colgate University's use of wood to heat their facility and meet their goal of reducing carbon from fossil fuels. About 43 species of migratory songbirds, rabbits, ruffed grouse, and other wildlife stand to benefit by converting some of the mature forests to "younger" stage forests, i.e. grassland and brush.

Now that we share a rudimentary understanding of how forest succession works, let's take a brief look at how we got where we are. When the Europeans arrived at our shores they discovered large tracts of mature northern hardwood forests (beech, maple, yellow birch, and hemlock interspersed with chestnut, oaks, and ashes). Within those large tracts were openings created by wind, fire, and deliberate burning by Native Americans. Those openings, depending on their age and the severity of the event that caused them, contained grasses, brush (blackberries and raspberries, alder, beaked-hazel, etc.), and young-forest trees (aspen, viburnums). Over time they would again become northern hardwood forests. However, in the interim, they provided habitat for the birds, deer, and other wildlife that relied on them for their habitat. That's why the Native Americans used fire to create those early successional stages—it gave them a specific place to hunt game and gather fruit. When their hunting ground matured and was no longer productive, they moved on to another "young forest."

As our nation was settled, the forests were cleared by loggers and farmers. The hemlocks were cut, primarily for their bark, which contained tannic acid used in the tanning industry. The white pines were cut and floated down the Susquehanna and Delaware Rivers to the coast and then used to make masts to hold the sails of the early sea-going ships.

As the farmers cleared the forests to create space for agriculture they hand-picked the rocks and used them to build the stone walls we see today. Those walls may have been a property boundary marker or an indication of where the soil changed from bad to worse (Delaware County). Clearing the forest did more than merely create

space for agriculture – it also allowed sunlight to reach what had been the shaded forest floor. In the presence of sunlight, the shade intolerant plants like grass, including *Zea mays* or Indian corn (maize), could once again flourish and help feed the growing population. "Manifest destiny" was alive and well, and the industrious, if not necessarily ecologically astute, settlers conquered the land, at least for the time-being. Photos from upstate in the 1920's show an entirely different picture than what we see today—trees were few and far between and sheep were everywhere.

Nature, combined with changing economic times and technology, has a way of fighting back. In the 1940's, about 100,000 family-run dairy farms, unable to compete economically, went out of business in NY. When that happened, about ten million acres went fallow (no longer being actively managed/farmed) and it should now be no surprise to you what began to happen. The pastures were invaded with woody stemmed plants that allowed them to grow tall and shade out the grass. The land was in the process of being reclaimed by the forest. As a result, the 1960's were a time of wildlife abundance for those who enjoyed bird watching or hunting ruffed grouse, American woodcock, or deer. It was a time of brush-a-plenty, and that meant early successional species had what they so desperately needed – then and now – habitat.

How would I know this if I wasn't a trained ecologist? Those of you who were "young" enough to have birded or hunted in the 1960s know the answer. The predominant deer rifle of that time was the Winchester Model 94 lever action, in either the 30-30 or 32-Special calibers. It was affectionately known as a "brush gun." Today hunters use a long-range, flat-shooting cartridge and have a 3X9 power scope mounted to their rifle. Why? It's not because our eyesight has gotten poorer. Rather, it's because there is no understory beneath the canopy of our forests and thus we can see – and shoot - much farther. The forests have reclaimed the land and, as a result, many of our "young-forest" species that were so abundant during the 1960's are in trouble because their habitats have been shaded out.

We have the ability to recreate that habitat via logging, including clear-cutting. To its credit, Region 4 of the DEC is actively engaged in doing that and has 27 clear-cuts either underway or completed

All the above helps us understand that forest fragmentation isn't the biggest threat to our forests, and that we have more forested land today than we did in the 1960s. We've looked at preservation as a management tool and now appreciate that preservation alone may have unintended consequences, i.e. the eviction of birds and other wildlife that rely on young forests for all or part of their habitat.

We've also lost some tree species to invasive critters like fungus and insects – among them the American chestnut – and with the use of genetic engineering (or traditional breeding) we're trying to either bring them back or keep other species from declining. Some examples of current threats include the gypsy moth (maples), emerald ash borer (EAB), hemlock wooly adelgid, Dutch elm disease, forest tent caterpillar (sugar maple), eastern tent caterpillar, peach bark beetle (black cherry), and the Asian long-horned beetle (infests numerous hardwoods).

When we introduce a "pest" from another continent, our native tree species haven't developed adequate defense mechanisms and are thus vulnerable to attack.

A less dramatic threat, but with more long-lasting consequences may be the impact that property taxes have on our forests. For example, in a typical scenario, a person from downstate is looking for recreational property and buys 100 acres of forest land upstate. He or she visits the property a few times a year, possibly harvests a deer or two and, after 10 years, looks back at how much they have used the property versus how much they have paid in taxes.

Looking at the imbalance of "joy" versus "pain" leads the owner to make the decision to sell the property and try to recover their perceived loss. To do that, he or she needs to make the most return they can on the sale of the 100 acres.

What usually happens then is the property is first logged with the goal of making an immediate "profit" with little concern for how that is done and when the land will be ready for a future harvest because ownership will change.

The next step is to divide the 100 acres parcel into two 50 acre tracts and sell them. They will likely be sold to another well-intentioned buyer looking for a place to recreate. After another 10 years have passed the scenario repeats itself and now we have four 25-acre parcels with nothing left standing but low-quality wood and no way to generate the revenue needed to offset the taxes. After the same scenario happens again, and history tells us it will, the remaining 12.5-acre tracts are too small to attract a logger and the wood on them is of such low quality that, without a market for it, it has no monetary value. It will either be developed or become a mature stand of low-quality wood that will likely remain that way for decades and, due to the lack of sunlight beneath the canopy, there will be little wildlife habitat of value except for those select species that need mature forests.

A more viable approach to maximizing the societal values associated with woodlands involves stewarding our forests in a manner that allows us to harvest a crop of wood every 25 years or so. Doing this provides habitat for wildlife (70% of the forest landowners surveyed have expressed an interest in wildlife), enables carbon sequestration to combat climate change, and protects water quality – but, as you now understand, accomplishing that is much more complicated than it seems on the surface, as there is little economic incentive for a landowner to spend his or her money to protect, or possibly enhance, societal values like wildlife habitat and clean air.

*Continued on page 14*

## State of our Forests (continued)

The one program to help New York's forest landowners be able to retain their property provides property tax relief in exchange for landowners agreeing to prepare a plan outlining how they will harvest their timber. It is housed under New York's Real Property Tax Law, Section 480-a, and was crafted to address only one facet of forest management – wood production. If you put something into the required forest management plan intended to benefit wildlife, the DEC will remove it.

Participation in Sec. 480-a is complicated and burdensome for participants and, as a result, only about 7% of eligible landowners participate – even though doing so could lead to an 80% property tax reduction. It can also be burdensome to local governments who, with the 2% tax cap imposed by Gov. Cuomo, can ill afford to lose tax revenue. Senator James Seward is keenly interested in doing something to address this shortcoming and is working on a plan to address it.

Here's the part where the rubber meets the road. If you are a forest landowner and a logger knocks on your door around tax time and offers you money for your standing timber, it's very tempting to take it. After all, it's money you need and didn't know you had access to. At this point, there are some questions to ask yourself. First, do you know the person who approached you and do you trust that person? Second, are you qualified to make a determination as to the value of the wood you're about to sell? The answer for most of us is a resounding "no."

Many of us simply don't know how to estimate the standing volume of the timber on our property using a Doyle, Scribner or International scale, how to use a Biltmore stick to estimate the number of saw-logs in a given tree, what the sawmills or China are paying for stumpage, and how much a logger will charge to have the harvested wood trucked to the sawmill. In other words, we have no idea of what the wood is worth, and therefore could sell it for far less than its true market value.

If the answer to either of the two questions asked in the preceding paragraph is "no," it's time to consider investing in a consulting forester who, for a small fee, is trained to advise you about what you should expect to net from a timber sale, how to conduct the harvest in a manner that will create conditions in your woodlot more likely to maximize the growth of the remaining "desirable" trees, and how to provide wildlife habitat for the species you want in your woods. By helping you put your proposed timber sale out for bid, the consulting forester is likely to help you secure a price for your wood that not only covers the cost of the forester, but also increases the amount you make or net from the sale.

The traditional timber harvest, unless directed by someone knowledgeable about how to achieve the landowner's goals, tends to be poorly done. I say that because the general practice is called high-grading (diameter limit cut) and that translates to "cut the best and leave the rest." If you, as a landowner, do that a couple times in a row, you are lengthening the time between future economically successful harvests, as the proportion of low value trees is increasing at the expense of the high value trees. In other words, now you're stuck with low value wood and no market for it and, to make matters worse, what's left may be of little value to wildlife. Here's where the use of wood for fuel (biomass) enters the picture.

In the Spring 2018 issue of "Living Bird" magazine (published by the Cornell Lab of Ornithology) it was stated that "overall, specialists say a healthy forested landscape should include roughly 10 percent of young woodlands" (right now that number for our woodlands hovers around 2%). That's a dramatic shift from just a few years ago when Audubon was adamantly protecting mature forests at the expense of young forests. In other words a few years back it wasn't OK to cut a few trees, even clear-cut five or 10 acres, but it is now. Why the shift in policy – you already know the answer having read to this point. Now the questions become what to do about it and how?

You own 50 or so acres and you'd like to harvest it to generate some cash and you also want to benefit those wildlife species, including many songbirds, American woodcock, ruffed grouse, and deer, which rely on young forest (grasslands and brush) for their habitat. To whom do you turn for help? You're now aware of the risk associated with trying to manage the timber sale yourself: risk of not getting what you should for your trees; risk of not knowing which trees to cut and which ones to leave; and the risk of not

knowing how to manage the logger so that he or she does what you want done.

There are some places to turn to for advice. Your regional office for the DEC has a forester on staff who can walk you through the process and maybe even put you in touch with the consulting foresters who service this area. The Natural Resource Conservation Service (part of the U.S. Dept. of Agriculture) has offices around the state and can assist you. Cornell's Cooperative Extension Program offers forest-related workshops and has a Master Forest Owner (MFO) program whereby they provide forest landowners with a free visit by a trained MFO who listens to what you want to accomplish and then explains how to begin going about doing it. Another primary source of information is of course the New York Forest Owners Association (NYFOA), with 10 chapters located around the State hosting "woodswalks" to help explain and demonstrate various aspects of how to manage a woodlot; the NYFOA website (*nyfoa.org*) is also a great source of information.

What do you do if your forest has been logged repeatedly using the high-grading approach, where they took "the best" and now you're left with "the rest"? There traditionally has not been a strong market for low grade wood ("the rest") in New York. Landowners who have wanted to reinvigorate their woodlots or manage them for wildlife via techniques that allow light to reach the forest floor encouraging regeneration of shade intolerant species have had to bear the burden of the cost. However, with Governor Cuomo's stated goal of having 50% of our electricity come from "renewable" sources (like trees) by 2030, the future market for low-grade wood or "biomass" seems much brighter. Should this come to pass, our woodlands—and the wildlife that depend on them—will benefit.

*Mike Zagata, former New York state DEC commissioner, currently serves as NYFOA's director of organization development.*

# 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

## The Spotted Lanternfly is Here…

**By Mark Whitmore**

I really don't want to be writing this article but circumstances have come to bear and we all must be on the lookout for a new invasive pest, the spotted lanternfly (SLF), *Lycorma delicatula*. I wrote about this insect a few years ago, wondering if it would find its way from Berks County, PA where it was first detected in 2014.

Well, it has. This summer there were two detections of adult SLF in New York state, both involved finding a single adult SLF. It was puzzling that an adult was found by a NYSDEC employee in their car in Albany. The car had been nowhere near Berks County, PA. The only way they could figure it got there was from their luggage having just passed through the Philadelphia airport as they returned from a trip. That was an amazing feat of hitchhiking for an adult insect. The other detection is more troubling, a landowner near Penn Yan found an adult in their yard and remembered seeing a photo of SLF. They called NYS Ag & Markets and as I write anyone in that organization as well as NYSDEC who is not tied to a desk is out looking for more and for good reason, as this pest has the potential to cause huge economic damage not only to forest trees, but to fruit trees and grapes.

This is a very scary bug! You've likely heard this refrain before, like the brown marmorated stinkbug where the grand disaster has yet to play out. This time I think it is different, but I would very much like to be wrong. We are still in the learning stages of SLF biology and behavior in the northeast and most of the information presented in this article comes from conversations with friends and colleagues who have been working on SLF in Pennsylvania.


*Figure 1. Spotted lanternfly,* Lycorma delicatula*, egg masses on wood decking. Emelie Swackhamer, Penn State University, Bugwood.org*

First, some background. Spotted lanternfly is in the tree hopper family, or Fulgoridae, that has hundreds of species but so far only SLF has become an important pest. SLF is native to the Indomalayan ecozone, a broad region of Southeast Asia, including southern China, Vietnam, and India. Evidence of SLF's invasive nature came from South Korea where it rapidly swept through the country in the mid 2000's and the most troubling part of this was that they reported it feeding on grapes. Since its detection in PA researchers have found it to feed on over 70 species of trees, shrubs, and even annual plants.

Spotted lanternfly has a one year lifecycle with four nymphal instars growing throughout summer before turning into adults in July and August. Eggs are laid by adults in fall on smooth surfaces in patches a couple inches long in a pattern that looks like a tire tread. The eggs are then covered with a shiny waxy substance that dulls and cracks over time (Figure 1). Egg masses are the most common life stage transported by people. It is thought the first SLF were brought into PA on a shipment of smooth stone from Asia, and much like gypsy moth, the eggs are often laid on vehicles which are then driven off to new locations.

Eggs hatch in late April or early May. The first three nymphal instars are shiny-black with white spots and are about ¼ to ½ inch long. The fourth instar is larger and striking with red patches on its body (Figure 2). Nymphs feed by sucking sap from the phloem on young shoots and foliage with their piercing-sucking mouthparts and are very active, moving up and down trees daily. As nymphs feed, sugary sap from the tree will leak and fall on the foliage providing food for dark sooty molds which can impede photosynthesis. Adults are about an inch in length and are beautiful insects with black-spotted gray wings covering the body at rest and in flight the brilliant red hindwings are exposed. Adults are amazingly long-lived, found from July into December. They are voracious phloem feeders and are gregarious, regularly found feeding in large groups with the feeding wounds producing copious flows of sugary sap, or weeping wounds. It was the feeding of wasps on the sap of one of these wounds that drew the attention of a wildlife biologist in Berks County, PA back in 2014 that led


*Figure 2. Spotted lanternfly,* Lycorma delicatula*, fourth instar nymph. Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org*

to the discovery of SLF. Because adults are long-lived and require copious amounts of sap, it has been difficult to establish colonies in the lab for research.

Spotted lanternfly nymphs feed on just about anything, including non-woody plants like sunflowers and hops. As they age their host range narrows to woody plants but is still quite broad. Feeding by large numbers of nymphs, which is common, can reduce tree/vine health and fruit yields. However, feeding by adults has been found to kill trees. SLF adults are much better at hopping around on the trunk of a host tree to feed, only flying when they need to find a new host. Adults feed on a narrower range of trees than nymphs including, among others, sycamore, pines, members of the rose family (apple, cherry, and stone fruits), black walnut, *Ailanthus altissima*, and maples. Among the maples it seems to prefer silver and red, feeding on sugar maple only if there is nothing else. Let's hope this remains the case. It's interesting that considering its broad host range that SLF does not feed on oaks, at least for the time being.

Two species of trees have been noted to be killed by SLF feeding in PA: black walnut and *Ailanthus altissima*. Grape vines have also been found dead, but that mortality is attributed to winter cold after being weakened by SLF feeding. A disturbing observation last year was the mass movement of feeding adults onto apples and peaches. Researchers feel that the voracious feeding on sap requires adults to abandon a tree when sap flow diminishes, searching for acceptable hosts in mass. Trees that shed their leaves early, thereby shutting down their vascular system, may be at an advantage in this regard.


*Figure 3. Adult Spotted lanternfly,* Lycorma delicatula. *Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org*

Although adult SLF feed on a number of hosts, it has been found most commonly associated with *Ailanthus altissima*, or the Tree-of-Heaven (I've no idea how such a weed got this name!). This aggressively invasive tree is native to central China and Taiwan and since being introduced to North America has spread through many urban areas and along transportation corridors but has yet to become established widely in our rural and wild forests. This tree could be the lynch pin to SLF invasiveness since there is an indication that adults require feeding on *Ailanthus* to reproduce. If this is the case, then removal of this tree or treatment with systemic insecticides could be one of the most important management options. However, this relationship has yet to be definitively established by research so buckle your seat belt.

A number of management options are currently being investigated. Sticky bands placed around the trunk of trees to catch nymphal movement are effective at catching SLF, but they quickly become clogged with dead bodies and other nymphs can simply crawl over them. Systemic insecticides are being used and are effective but in a forested setting there are so many trees and SLF that it seems like a drop in the bucket for area-wide management. Insecticide trials are currently underway so more options may be available shortly. As mentioned above, removal of *Ailanthus* is being practiced with the females being killed first, but anyone with experience trying to remove this tree from their yard knows how difficult it can be. Biological controls are also being investigated by a USDA research lab in Delaware with some promising candidates identified for further work, but this is a long-term solution to a problem that is getting larger rapidly.

What we need now is a massive education campaign to reduce human assisted movement from infested areas and early detection in adjacent states. We are also going to need research to what the best management tactics will be to mitigate the potentially astronomical economic damages this pest presents to our forests and fruit production, two of the most important natural resources in upstate New York.

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

the USDA Web Soil Survey. USGS topographic maps are also of great value. Review the link below for a ForestConnect fact sheet on these topics.

2. Inventory your woods. This could be as simple as taking your map or image (Figure 3) from step #1 and sketching areas of young versus older hardwoods, pine versus maple, scrub lands versus mature forest, springs, seeps, or whatever you have. Include trails, hedgerows, stone walls, streams, ponds, and the small woodland pools that only have water for brief periods of time. You could do a more detailed inventory; instructions are available online by searching for "landowner woodland inventory".

3. Once you have an inventory or at least a sketch of your woods, start to prioritize areas that you could manage to achieve multiple benefits. You will get ideas for what you might do by attending NY Forest Owner Association woodswalks in your chapter or neighboring chapter. Cornell's Master Forest Owner volunteers can't provide technical guidance, but can share what they have seen on their own land and that of other owners. Request a free visit from a volunteer at *www.CornellMFO.info*

4. In addition to the inventory of your woodlands, you need to know about the particular wildlife species that interest you. Unless you want any wildlife species, you need to learn more about your favorite birds, amphibians, reptiles, and mammals. As previously mentioned the NYFOA magazine has a column each issue on "Wild Things in Your Woodlands" that covers the details of many species. This is a great place to start. The references below also include details about what individual species need. The key is to start with 3 to 10 favorite species that are likely on your property, and build your knowledge.

5. Now the fun starts, whatever that might be for your particular property. Your management actions should support your highest priority and most pressing objective(s). Your efforts will be specific to your land, but some examples of activities that accomplish multiple objectives follow.

**Trails** – After a landowner has permanently marked the boundaries of their property, the second most important task is to ensure there are trails that provide access to all areas. While many owners are willing to bushwhack without a trail, we usually spend more time in areas where we can easily travel. Trails can be as simple as bits of yarn or flagging on trees that guide the attentive eye through the woods, or can be as grand as you choose. The trail should be of sufficient width for humans or vehicles that will travel it. Also, a trail for walking can be more curvilinear than a trail for pulling your ATV logging arch or for x-c skiing. Trails don't directly benefit wildlife, except that when you can see areas repeatedly you will start to imagine and visualize what you might do.

*Figure 5. The pool shown here was created after logging and a skidder that drove through a short section of poorly drained soil. The skidder enhanced the pool with a berm of earth to hold more water a longer period of time. This 16" deep pool is almost always a certain location to find a variety of amphibians.*

**Woodland Structure** – Structure is what a woodland physically looks like. Structure refers to the heights of the dominant trees, the number of trees per acre, average diameter of trees, number of trees per acre, the variability in the diameter of the trees, the fullness of the crowns, and more (Figure 4). Consider how you would describe one area of your property from another… that's structure. The different types of structure often correspond to differences

*Figure 6. Some trees, such as the one pictured, die from natural causes. Dead standing trees are called snags. In other cases snags can be created through chemical or mechanical girdling. Create snags in safe areas, away from trails and buildings, but a few in the woods will provide abundant food, cover, and space for many species.*

in the availability of food and cover, both essential to a diversity of wildlife. You can influence structure, and thus habitat diversity with simple or significant actions. These are described below as culling and "sunlighting."

**Water** – In most woodlands, the single activity that will result in the greatest variety of wildlife is creating access to water. Adding water to your landscape adds texture. If you have beaver in the area, you can wait and see if they decide to build some dams on your property. If you have a harvest of logs, you can likely ask the logger to expand some wet spots to encourage trapping water for periods of time (Figure 5). You can also design a build a pond, or repair a pond that exists but has become over-grown.

**Culling** – In the normal course of the growth of a woods or forest, there are more trees than can be supported by the sunlight that is available. As the woods grow and the average tree diameter increases by one inch, approximately 20% of the trees must die. Tree death will happen regardless of our efforts, so the option is for the owner to decide which trees will die, or let natural processes decide. Pick trees that don't support your ownership objectives and safely fell or girdle those trees. Culling can include the more traditional practices of thinning or crop tree management, with retention of considerable amount of woody slash on the ground for wildlife cover. Culling could also include creating snags, which are standing dead trees, and are important as homes for a variety of wildlife species, particularly birds (Figure 6).

**Sunlighting** – The term "daylighting" is often used in regards to providing sunlight to forest roads so that they dry more quickly after rain and snow. I use the term "sunlighting" here to illustrate the value in making sure there is sunlight on the forest floor to stimulate the growth of herbaceous and woody plants that serve as food and cover for wildlife. Sunlight to the forest floor might be increased with a canopy opening at a cluster of culled trees, or might be something more expansive such as a one acre patch clear cut. Owners can personally open areas of a 0.25 to 3 acres as a personal project, if they have the tools and knowledge to work safely. Thus, sunlighting can occur as a continuum on your property from clusters of small gaps to larger openings. The more of the woody slash you leave behind, the greater the benefit for wildlife. It is also possible, if not advisable, to retain several live stems of nice trees in the clearing as perches and as future timber trees. Realistically, these openings will be used by deer which will preferentially browse, and likely over-browse, the desired species and leave invasive shrubs in their wake (Figure 7). Be alert to these conditions and treat the problem as it develops. You might want to fence some areas to exclude deer. Unless you leave enough slash to significantly offend your aesthetic sensibilities, you likely will not exclude deer.

**Planting** – Many rural woodlands also have a few acres of open meadow or old pasture. These grasslands are important in and of themselves. In some cases, with an abundance of open acreage, you may want to establish some dedicated wildlife plantings on some portion of your open acreage. Pick native species that have specific benefits as food or cover for the wildlife species on your "most wanted" list. The three key aspects of a successful planting are to: (i) select a species suited to the soil, (ii) prepare the site so that competing vegetation is controlled, and (iii) protect the plant from damage by deer and rodents.

In many ways, woodlot management is synonymous with wildlife management. Manipulations of the trees create new and varied habitats. By planning for specific and desirable changes in the vegetation, owners can influence the success and abundance of wildlife species. Plan thoroughly and work safely.

*Figure 7. Openings that you create in the woods provide a new structure, but may likely concentrate the activity of deer who browse sprouts (as shown) or seedlings.*

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*www.youtube.com/ForestConnect* - webinars on almost all the topics



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# Member Profile:
## *Eric and Eleanor Randall*

PETER SMALLIDGE

*Eric (and Eleanor) Randall have a multi-generational connection to their land. Eric demonstrates an embeddedness through his childhood, careers, and now full-time role as steward.*

### A Tale of Three Counties – The Randall Woodlots

Most days it seems like the best of times, especially when wisdom is applied to management decisions. In the three counties with their woodlots, Eric and Eleanor Randall have enjoyed the fruits of their hard labor, and have gratitude for the work of their predecessors. They willingly accept their role as stewards.

Eric describes the lessons learned from farmers and sugarmakers about the necessity of taking care of the land and the trees. He used those early lessons as a foundation for a career of teaching others the same concepts. He describes his sense of good fortune to be able to couple early hands-on lessons with advanced educational opportunities which provided a forum and platform for research, and a venue for distributing information to a broad audience. Eric shared that he always enjoyed being able to provide the public with an opportunity to discover new knowledge relating to the environment and a legacy way of life.

Eric's background started with a childhood on a dairy and cash crop farm, followed by undergraduate and graduate degrees in botany. His first career was as a professor at SUNY-Buffalo, where he eventually chaired the Department of Biology. After a very short retirement, he became Dean of Science, Management, and Technology at Edinboro University of Pennsylvania. Eleanor and Eric met as graduate students at The Pennsylvania State University. Previously she was a biology teacher and then returned to Penn State where she earned a MS in genetics and subsequently a MLS in library science. Although raised in the city of Johnstown, PA, Eleanor looked forward to spending time at camps in the mountains and forests of western Pennsylvania. Over the years her urban background contrasted and complemented Eric's rural heritage in many interesting conversations. The lessons learned from this background difference helped to forge the basis for developing their educational programs for events like Maple Weekend activities.

For the Randalls, wisdom is both learned and shared among generations. Eric notes that to understand forest management one must accept responsibility for forest stewardship. The ever-changing forest ecosystems mature on a scale that is 3 to 4 times that of the lives of most owners. Eric and Eleanor view their management in the context of efforts by the previous generation. They also think, for example, about future history, 150+ years in the making, that will be needed by the 2" diameter white oak sapling that helps support a maple tubing system before it will someday compare to a nearby 30" diameter 3-log specimen, just shy of 1000 board feet.

*The combination of good soils and thoughtful management guided by forestry professionals results in remarkable trees, such as this northern red oak, that occupy their woodland.*

Their largest parcel is in Wyoming county, with 100 acres of row crop agricultural land and 50 acres of woodlands managed for almost 6 decades under forest management plans most recently to produce maple sap from 2600 taps. Eric's parents originally purchased this property in the 1940's. Management from the 1960s to the 1990s focused on timber stand improvement (TSI) and USDA Conservation Reserve Program activities. The woodlands include mixed-aged stands with a significant population of mature white, red, and chestnut oak, black cherry, sugar maple,

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*Eric and Eleanor were participants in Cornell's sweet tree outplanting trials in the late 1990's. These 20 year old trees enjoy good growth on soils where they are adapted.*

cucumber magnolia, and a few birch. This property is held in a trust by Eric and his sister.

The homesite is in Genesee county on 24 acres that is largely wooded and houses *Randall Maple* for sap processing. Also included are a fruit orchard, small vineyard, and sugar maple plantation of Cornell sweet trees including an original sweet tree provided by Josh Cope. Eric and Eleanor made the purchase in 1975, and began with a poorly maintained swamp woodland on a seasonal dirt road. Undeterred to reach the best of times, they began the construction of all the buildings, a sugarhouse, a round barn, toolshed, carriage house, and several smaller buildings.

The third county where Randalls tread is Livingston, near Conesus Lake. This small wooded lakefront property receives attention for their efforts in detection, research, and management of watershed invasive species such as Hydrilla, Myriophyllum, hemlock woolly adelgid, and others. The Randalls, through planning and major renovation, have helped this property develop as a site for family gatherings and recreation.

Their three properties have strikingly different environments. The Genesee county homesite rises to 1010 ft on the Allegany plateau. With 40 years of effort, stewardship, research, cultivation, and teaching they now have about 100 woody species; this complements the natural forest cover of sugar and red maple, basswood, and both bitternut and pignut hickory. There is a nine acre-foot spring fed pond adjacent to the sugarhouse. The pond and springs on our property contribute to the headwaters of Murder Creek, a tributary of Tonawanda Creek. The native understory, here and at the other properties, has been largely eliminated by deer. In Genesee, they now mostly grow poison-ivy and bush honeysuckle in the understory.

*The aesthetics of the pond add to the experience of visitors to the Randall Maple sugarhouse, especially during Maple Weekend.*

The Wyoming County farm, also at about 1100 ft elevation, includes highly productive and well-drained gravel soils and is on the south end of Silver Lake. The woodlot, with similar soils, provides for an impressive array of oaks, cherry, sugar maple, basswood, cucumber magnolia, and a few butternut. Some of the white oak are more than 350 years old; one retained Eric's 30 inch increment borer and complicated the future aging of trees. Hydrologic features include two small ponds and several streams that serve as a source for Wolf Creek which enters the Genesee River at Letchworth State Park. Eric is planning now for the eventual harvest of the large amounts of white ash as a pre-salvage prior to the arrival of emerald ash borer.

Their biggest management challenges occur on their Wyoming county farm, and their right to farm on land that is under nearly constant development pressure. Over the last 60 years there have been at least four notably unpleasant attempts to condemn this land for public parkland, public utility, and private/public enterprise. Despite their earnest efforts, during this time nearly half of the original farm has been lost.

Management decisions are thoughtfully made in support of ownership objectives. Eric and his sister share decision making for the property in Wyoming County, and Eric and volunteers and friends complete the work. The decision-making process depends on information from bulletins, scientific literature, the MFO volunteer training Eric received, life experiences, and related types of sources.

Their investment in the ownership, and corresponding stewardship, of these lands, includes miles of drainage tile, contour planting, and managed diversion ditches to prevent erosion. The woodlots have been

cultivated via TSI and CRP programs with professionally guided forestry assistance. The NRCS professionals have been instrumental in management decisions as evidenced by archival records dating to 1941. The family recognized the value in keeping large harvesting equipment off this land, despite the greater revenue from other types of crops such as potatoes. Rather, they worked with a neighbor who is a responsible land steward. As an indication of their success in this endeavor, the soil's tilth, pH, organic matter, microbe levels, and drainage remain pretty much as they were a half century ago.

A significant part of the Randall's woodlots connects with their interest and heritage for maple syrup production. The family has been making maple syrup for over 170 years. Trees are tapped at the Wyoming and Genesee woods, with processing at the sugarhouse on the Genesee property. This property also serves to support their enjoyment with public education. They have hosted Maple Weekend (*www.MapleWeekend.com*) the two weekends after St. Patrick's day for almost 25 years. They also have planted numerous trees and shrubs used by Eric in his professional career studying botany. The plants, a bit out of place geographically but surviving, include: dawn redwood, bald cypress, big leaf magnolia, hazelnut filberts, nectarines, willow oak, and Carolina allspice.

Maple production started with a few taps, but like so many who are bitten, now includes about 3000 taps. Their flat pan evolved into a "state of the industry" demonstration evaporator, and they use reverse osmosis to concentrate the sap and pressure filtration is used prior to bottling. Eric and Eleanor were among the originators of Maple Weekend that introduced the public to their sugarhouses, sugarbushes, and maple products as a way of life. Maple Weekend is a popular attraction for people from rural and urban areas where legions of people visit to enjoy a time-honored recognition of spring and to learn about maple production. True to form, they embed maple syrup production in an educational context of agrotourism and a primer to showcase agricultural history, techniques, "field to table", and the agrarian/ green way of rural life.

Their role as maple producers allows them to extend their role as educators. The sale of products from their farm stand may be a brief transaction, or may develop into a lengthy conversation about some aspect of maple and woodlands. They enjoy and expand upon these interactions, as evidenced by Eric's (and thus by default Eleanor's) activity with the NYS Maple Producers Association and Eric's recent service as President of the North American Maple Syrup Council. NYFOA has added to these interactions, providing a connection to Eric's participation as an MFO volunteer and involvement with federal, state, and regional invasive species councils.

One benefit of wood-fired evaporators is the opportunity to annually manage your woodlands to ensure an investment of sunlight in the best and most productive trees. However, as all who heat with wood know, firewood is not free. To optimize their effort Eric and Eleanor have invested in a high efficiency evaporator that also harnesses the "waste" steam to assist with the early stages of evaporation. The throughput of this evaporator is about four-fold greater than before, while using about one third the wood. High vacuum sap extraction, underground mainlines and a substantial tubing system have greatly increased both production and labor efficiencies. They replaced older, two-wheel drive farm tractors with compact, four-wheel, 35 and 60 hp diesel tractors with loaders. A PTO logging winch makes easier work of removing cull and firewood trees from beneath the maze of tubing. Dump trailers and hydraulic lifts prove valuable in many ways. Starting ten years ago, Eric and Eleanor enjoyed the energy and assistance of a local high school student who approached them; he wanted to learn and to "help" in the woods. Now, he still contributes to all parts of production. Eric and Eleanor also enjoy their friendship with a long-time neighbor to boil or when Eric breaks something. The neighbor, a professional agricultural mechanic with a family history of syrup, does much of the boiling in the sugarhouse. At 80+ years he shows little sign of slowing down.

Eric and Eleanor credit their success to their two children, grandchildren, parents, and grandparents who were generous with their time, expertise, muscle, and excitement in support of this old cottage industry. Eric and Eleanor develop plans, practices, and innovations with the intent that these will direct the work of those who follow. That requires patience and really long-term planning, plus a fervent hope for the transfer of forest stewardship principles to children and grandchildren.

Thus, the story of three woodlots, in three counties, is actually that of sacrifice. The untold, unknown, and often forgotten sacrifice of those previous owners and managers, and the dedication of the current owners striving to ensure that future generations have equal opportunities.

*The legacy of stewardship was passed to Eric and Eleanor, and also to son Jesse (and daughter Rebecca). These experiences in part shaped the future of Jesse, who now serves as Director of Michigan State University's AgBioResearch Forest Biomass Innovation Center. Rebecca is a professional architect managing design and construction of university infrastructure and an occasional sugarhouse.*

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