

# 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 2020



*Member Profile: Carol and Gerry McDonald*

*Volume 58 Number 1*



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**In This Issue . . .**

**FROM THE PRESIDENT**  
ART WAGNER ..... 3

**NEW YORK FARM SHOW**..... 5

**ASK A PROFESSIONAL**  
PETER SMALLIDGE AND BRETT CHEDZOY ..... 6

**WILD THINGS IN YOUR WOODLANDS**  
KRISTI SULLIVAN..... 8

**NEWS FROM NEW YORK TREE FARM PROGRAM**  
MARY JEANNE PACKER ..... 10

**WILD BEES AMIDST THE TREES**  
KASS URBAN-MEAD ..... 12

**WOODLAND HEALTH: PAINTING OUR WAY OUT OF A CORNER**  
PAUL HETZLER..... 16

**MEMBER PROFILE – CAROL AND GERRY McDONALD**  
DORIAN HYLAND..... 21

**The New York  
Forest Owner**

A PUBLICATION OF THE NEW YORK FOREST OWNERS ASSOCIATION

VOLUME 58, NUMBER 1

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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.



[www.nyfoa.org](http://www.nyfoa.org)

**COVER:** Front cover. Gerry and Carol enjoy their woodlands and are active in producing a variety of benefits, from mushrooms to lumber. For member profile see page 21. All photos courtesy of the McDonalds.

# From The President

As highlighted in my previous column, the health benefits derived from our forests are quite extensive. However, these health benefits are only one aspect of the value well-managed sustainable forests contribute to our overall environment. Our forests also provide significant benefits to New York



State's economy, especially financially hard-hit rural areas located throughout New York State.

Some of the recent data about the overall economic

importance of New York's forests, as reported from the NYS Department of Environmental Conservation website, include the following annual totals (2017):

- Forest related tourism contributed \$1.9 billion to the economy.
- The economic contribution of forest products and related manufacturing, and other services total \$14 billion.
- Private landowners annual payments (timber revenue etc.) of approximately \$300 million.
- 488 million board feet of logs, and 2.1 million green tons of pulpwood and wood chips were produced.
- There were 41,000 direct employment jobs, and \$2.5 billion direct labor income supporting 100,000 other jobs.
- 25% of timber harvested was exported.

All of this is occurring while net forest growth exceeds harvests annually by a ratio of more than 2 to 1.

It's important for all stakeholders, which means every New York State resident, to understand our forest impacts beyond the obvious. Those involved in New York State forestry stewardship, including landowners, manufacturers, foresters, loggers, government, and others, have a duty to protect those resources for generations to come. I trust that with the ongoing collaboration among these groups to improve forestry-related practices, New York State forests will no doubt continue to thrive, despite the many challenges we face.

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

With the start of the new year, we are looking for interested individuals to step up and assist the organization in growing and improving. If you would like to get further involved organizationally, please reach out to your chapter chair to volunteer locally or on a state-wide committee. If more convenient, feel free to reach out to me directly at [president@nyfoa.org](mailto:president@nyfoa.org)

Wishing all a happy, healthy, and prosperous 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*, woodwalks, 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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2020 Loggers' Expo | May 15-16, 2020 | Champlain Valley Exposition | Essex Junction, Vermont

For information about attending or exhibiting at the **2020 Loggers' Expo**, visit us on-line at [www.northernlogger.com](http://www.northernlogger.com) or call toll-free **800-318-7561** or **315-369-3078**.



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# Free programs at the NY FARM SHOW

## February 27-29, 2020

Free programs to help landowners get more benefits from their woodlots will be presented each day during the 2020 Farm Show in Syracuse by the New York Forest Owners Association. Meet with a forester from the State Department of Environmental Conservation or speak with a Cornell-trained volunteer. Visitors are encouraged to bring their questions and pause at the booth area before or after attending a seminar program. The DEC foresters and trained volunteers are there to help with resource materials, displays, and expert advice.

**Learn More, Earn More** seminars are free and open to all. Topics include seminars on New York woodlands, trail creation and maintenance, federal cost sharing for woodlot improvements, white-tailed deer management, and long term legacy planning for your woodlot, among others. Programs start on the hour and allow time for questions and discussion.

The booth is on the main corridor of the Arts and Home Center, and the Seminars are held in the Somerset Room just steps away on the lower level of the Center.

These programs are presented by the New York Forest Owners Association in cooperation with the NY Department of Environmental Conservation, Cornell Cooperative Extension, SUNY College of Environmental Science and Forestry, and with special thanks to each of our expert speakers.

### **THURSDAY FEBRUARY 27** Moderator *Kristina Ferrare*

#### **1:00 PM-2:00 PM – Getting Federal Aid for Woodlot Improvements**

*Michael Fournier, US Department of Agriculture, Natural Resource Conservation Service*

There are several programs available to woods owners for financial assistance to improve your property for timber, wildlife, watershed, and other uses.

#### **2:00 PM-3:00 PM – Attracting Wildlife: Ruffed Grouse and Woodcock**

*Andrew Weik, Biologist, Ruffed Grouse Society*

Having wildlife on your property adds a lot and grouse and woodcock are two important species here in New York. To attract them certain forest management practices are needed.

#### **3:00 PM-4:00 PM- Renewable Energy From the Land: Wood Fuel to Solar and Wind**

*Ed Neuhauser, retired utility employee and forest owner*

Learn some of the efficient ways to harvest wood fuel and also the possibilities and cautions you need to know before turning your land into a wind or solar power area.

### **FRIDAY FEBRUARY 28** Moderator *Hugh Canham*

#### **10:00 AM-11:00 AM – Woodlot Thinning for Tree Health and Maple Sap Production**

*Peter Smallidge, NYS Extension Forester, Cornell University*

By removing some trees and giving room for others to grow, you improve the overall health and resiliency of your woods while getting more sap for maple syrup.

#### **11:00 AM-NOON – Woodlot Regeneration: Growing Trees and Limiting Deer Damage**

*Peter Smallidge and Brett Chedzoy, Cornell Cooperative Extension*

Too many deer can significantly reduce the ability of your woods to regrow young trees after a timber harvest. There are some interesting new ways to have both deer and young trees.

#### **1:00 PM-2:00 PM – Insects and Diseases in Your Woods**

*Kim Adams, SUNY College of Environmental Science and Forestry*

An update on how to recognize the various insects that are invading the woods of New York and what can be done to save our trees.

#### **2:00 PM-3:00 PM – Rights and Responsibilities of Landowners**

*David Colligan, Esq. Attorney, Colligan Law Firm, Buffalo NY*

Owning land brings certain legal responsibilities and possible liabilities. Learn what you need to know about maintaining boundaries, trespass, easements, zoning etc.

#### **3:00 PM-4:00 PM – Silvopasturing: Trees and Animals Together**

*Brett Chedzoy, Regional Extension Forester, Cornell Cooperative Extension of Schuyler County*

It is possible to grow trees and have a successful animal herd on the same land. From personal experiences and professional knowledge see how it can be done.

### **SATURDAY FEBRUARY 29** Moderator *Hugh Canham*

#### **10:00 AM-11:00 AM – How to Get Professional Advice for Your Woodlot**

*Hugh Canham, Emeritus Professor, SUNY College of Environmental Science and Forestry*

There are many things you should know about your land: legal, biological and physical aspects, selling timber, etc. Get an overview of various public agencies and private consultants.

#### **11:00 AM-NOON – Maple Syrup Making for Fun and Profit**

*Steve Childs, Cornell Maple Program*

Producing maple syrup from your woodlot can be an exciting hobby or a business. There are several alternative ways of going about it.

#### **1:00 PM-2:00 PM – Experiences of a Woodlot Owner**

*David Morabito, Landowner*

See the successes and difficulties one landowner has experienced over the years in having timber sales and other endeavors. Learn what you might be able to do or avoid.

#### **2:00 PM-3:00 PM – Trees of New York: Identification and Growth Habits**


*Levi O'Brien, SUNY College of Environmental Science and Forestry*

Learn how to identify the common trees found in New York State and how they grow; what different species need to develop in a forest setting.

#### **3:00 PM-4:00 PM – How Resilient are Your Woods**

*Kristina Ferrare, Regional Extension Forester, Cornell Cooperative Extension of Onondaga County*

*Gregg Sargis, Director of Ecological Management, The Nature Conservancy – New York*

How well can your woodlot withstand a hurricane, insect infestation or recover from a timber harvest. Learn some indicators you can observe in your woods and protecting the land. 

# Ask A Professional

PETER SMALLIDGE AND BRETT CHEDZOY



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](http://www.forestconnect.info)*

## How much is enough? Assessing the success of hardwood regeneration

**Question:** I had a harvest in my woodlot and want to know if it has regenerated. Is it sufficient to see some desirable species? (Erin, CNY chapter; Eric AF chapter)

**Answer:** For two decades or more interest in sustainable and "regenerative" forestry has been of primary interest to many people and organizations. Because all trees eventually die and society needs forests to be replaced, the question of successful regeneration is essential and central to that discussion.

At the beginning of scientific forestry in the late 1800's, research priorities focused on describing the remaining forests or establishing new forests on cutover lands or abandoned agricultural lands. As the science progressed and landscapes changed, attention began shifting to management practices that would manipulate an existing forest and ensure its replacement. By the latter half of the 20<sup>th</sup> century, considerable research was documenting regeneration failures, often associated with deer browsing impact on forest regeneration. The USFS Northern Research Station and many others immersed themselves in resolving the need to regenerate eastern forests. In 2013, the New York Forest Owners Association, in partnership with other organizations and institutions, committed itself to the Restore

New York Woodlands initiative (Figure 1) that recognizes NY's maturing forest and several barriers to regeneration.

### Defining Terms

The purpose of replacing the current community of trees, "the forest", with the next forest is to ensure that the services and benefits from the forest are sustained (Figure 2). These services and benefits are tangible and intangible (e.g., wildlife habitat, timber, clean water,



Figure 1. The Restore New York Woodlands initiative was developed to highlight the need for attention to the barriers of forest regeneration given the maturity and aging of forests in New York.

aesthetic vistas). Usually the entire forest isn't replaced at one time, but rather management units within the forest called "stands" are incrementally replaced. A "stand" is comparable to a farmer's field with a high similarity of species, sizes, and ages within a field/stand that distinguish it from other fields/stands. The full suite of services and benefits are possible only when a stand is adequately stocked. Stocking refers to occupancy of a stand with trees such that the available sunlight is fully utilized by the canopy of the trees' crowns. The number of trees to achieve adequate or full stocking depends on tree size. Therefore, a stand is regenerated when there is adequate stocking of

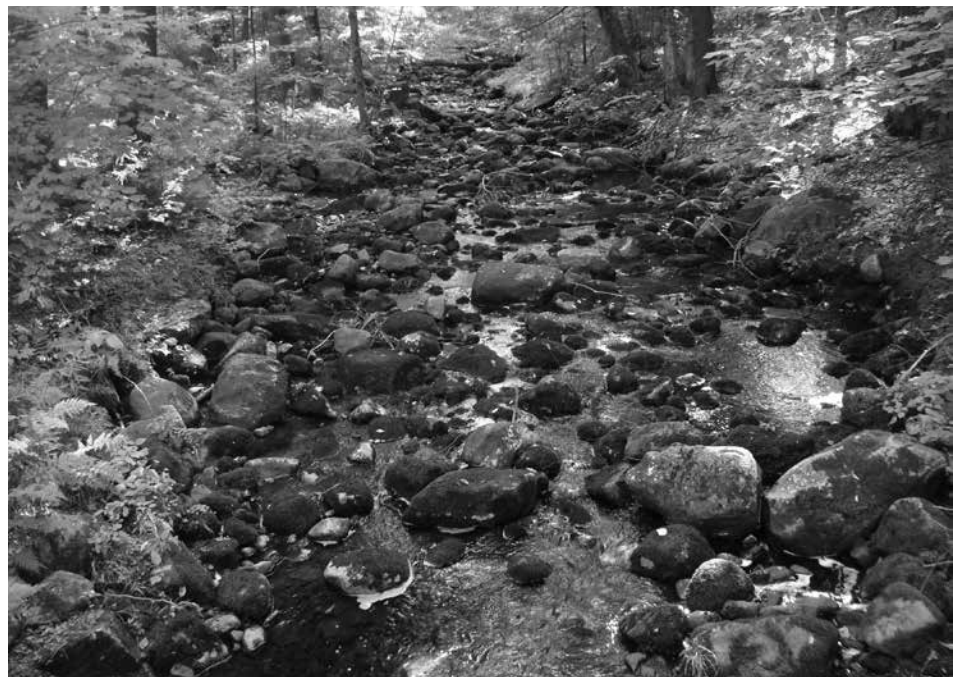


Figure 2. The full array of benefits that forests provide depends on full stocking of desirable trees and plants. For example, full stocking ensures cooler stream temperatures, higher dissolved oxygen for aquatic organisms and fish, and reduced potential for erosion.



*Figure 3. Most desirable species, including this white oak, can suffer significantly reduced growth after browsing. The impact of deer browse is pervasive in most northeastern forests. Browsing can eliminate desirable tree and herbaceous plants, and can cause cascading negative impacts through encroachment of interfering and invasive species.*

desirable species. The term “regenerated” should be reserved for stands that have adequate stocking of seedlings of desired or acceptable species with adequate vigor and quality that are taller than the reach of deer.

The task of regenerating a stand is not trivial. Several barriers complicate the

process of regeneration, including excessive browsing by deer (Figure 3), which amplifies shading by interfering vegetation, and past management practices that deplete tree species diversity, productivity, seed supply, and genetic potential. Because owners and foresters know the goal is to



*Figure 4. Red oak and red maple regenerate in an area that was thinned and treated with herbicides to control interfering plant species. The thinning provided light, and some slash that restricted deer movement. As the slash degrades, the seedlings less than 5 ft. tall will become vulnerable to deer*

replace the current stand with the next stand of similar or better quality, many people are inclined to favorably focus on the presence of a few seedlings or sapling of desirable species. In some cases, the number of desirable seedling and sapling stems per acre, the stocking, may be insufficient to create a fully stocked new stand.

On several occasions woodlot owners and foresters have pointed to isolated seedlings of desirable (or even marginally acceptable) species and used terms such as “regenerating” or “getting some seedlings.” In some cases, the stems they identified were heavily browsed by deer and so not soon likely to be a functional seedling or sapling. While these seedlings are pleasant to see, they do not constitute successful regeneration. It is better to recognize a problem and seek a solution than it is to refer to a failed effort with euphemisms that obscure the need for additional action.

### Stand Development

Regeneration is a process that is part of the development of a stand. A stand might be young, or have young areas if it is uneven-aged, but the young trees and the young stand change through time. Stand development is the description of how the trees and vegetation change through time. The events and circumstances at the beginning and the end of stand development are particularly important to stand regeneration.

As a stand approaches maturity, whether financial or biological maturity, and the owner works with a forester to make plans for replacing the stand there are several necessary conditions to attain. These conditions require time and often a sequence of operations, and thus regeneration is a process. Planning for the next stand requires a source of new propagules, usually naturally produced seed from mature trees growing in or near the stand. As a last resort for failed natural regeneration seedlings may need to be planted. The seeds need a seedbed that is conducive to germination. The new germinates need adequate but not excessive sunlight in an environment with favorable moisture and temperature conditions. Finally, a sufficient number of seedlings need to survive mice, deer, pathogens, and other mortality agents so that their continuing growth allows for the young

*continued on page 18*

# Wild Things in Your Woodlands

KRISTI SULLIVAN

## BOBCAT (*LYNX RUFUS*)



*The bobcat, a small wild cat, can be found across much of New York State, except on Long Island and parts of central and western New York. About twice the size of the domestic cat, adult males weigh about 28 pounds and are 22 inches high at the shoulder. Females are usually much smaller, reaching an average of 20 pounds. Bobcats are tawny to grey in color, with black spots, and very soft, dense, short fur. They have a stout body, pointed ears, and short, “bobbed” tails that are black-spotted with a white-tip.*

The bobcat is an elusive and solitary creature, and catching a glimpse or seeing signs of this animal is a rare treat. They are mainly nocturnal, but sometimes venture out in the daytime. When visiting suitable habitat in the winter, you may be able to find bobcat tracks in the snow. Follow the tracks to experience life from a bobcat’s point of view, walking from vantage point to vantage point in search of food. You may walk across a log to cross a stream, climb to the top of a rock formation, or stop and visit a brush pile. Be prepared—these cats are excellent climbers and strong swimmers!

Bobcats are efficient, wary predators equipped with sharp senses of sight, smell, and hearing. They have four large canine teeth to pierce deeply into prey and retractable, hooked claws on both the front and hind feet. Bobcats are opportunistic, preying on anything that is available. Small animals such as mice, voles, shrews, squirrels, chipmunks, birds, rabbits, and hares form the bulk of the bobcat’s diet. They will also eat porcupine, mink, muskrat, skunk, fish, frogs, and insects. Bobcats will even occasionally take sick, weak, or crippled deer, and will store carcasses for later use by covering them with leaves.


The bobcat primarily inhabits extensive forests, wooded swamps, rocky outcrops, and occasionally agricultural areas. The most critical features of bobcat habitat are places for refuge and protection, such as rocky ledges. Bobcat often use rocky ledges and rock piles for shelter, breeding, and raising young. Brush piles, hollow trees, and logs also provide good cover for resting and dens. Bobcats are not present in heavily developed areas. However, they can use patches of wooded habitat.

Bobcats breed from late February to early March, and young are born in April or May following a 50- to 60-day gestation period. Bobcats give birth in dens—rock crevices, caves, and hollow logs insulated with dry leaves and mosses. Average litter size is two kittens, but can range from one to five. Kittens stay with their mothers for several months, learning to hunt and kill prey.

Foxes, owls, and adult male bobcats may kill bobcat kittens. However, the most common cause of mortality for kittens and juveniles is starvation due to low food supply. During severe winters, adult bobcats may die of starvation too. In addition, adults may be injured or killed by their prey. Several diseases carried by raccoons and feral cats including rabies, feline distemper, and feline leukemia may

infect adults. Bobcats may live up to 14 years in the wild.

Bobcats will be attracted to areas where they can find suitable shelter and food. Habitat features that attract and benefit small mammals such as clearcuts, brush piles, and large logs left on the forest floor, will in turn enhance habitat for bobcats. Hollow logs provide dens, and bobcats often prefer to walk across logs in the winter rather than forge through deep snow. You can take further steps to benefit bobcats by protecting rocky outcrops and crevices from disturbance, and providing good hunting habitat nearby.

The New York State Department of Environmental Conservation would like to learn more about the occurrence and distribution of bobcats in New York, particularly in upstate New York. Landowners like you, who spend a considerable amount of time outdoors, can be an essential resource for information on bobcats. If you have information, and would like to report a bobcat sighting, visit the NYSDEC web site at <https://www.dec.ny.gov/animals/30770.html> 

*Kristi Sullivan is Co-Director of the Conservation Education and Research Program and Director of the NY Master Naturalist Volunteer Program.*





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

# Get More Out of the Land You Love

COORDINATED BY MARY JEANNE PACKER



## American Forest Foundation's My Land Plan Tool

The American Forest Foundation (AFF) has developed a free online resource known as *My Land Plan* to help forest owners all over the US to keep track of their woodland resources, management activities, and experiences in one single place. The planning tool acts like an interactive map which helps forest owners to set goals and monitor the progress of their tasks.

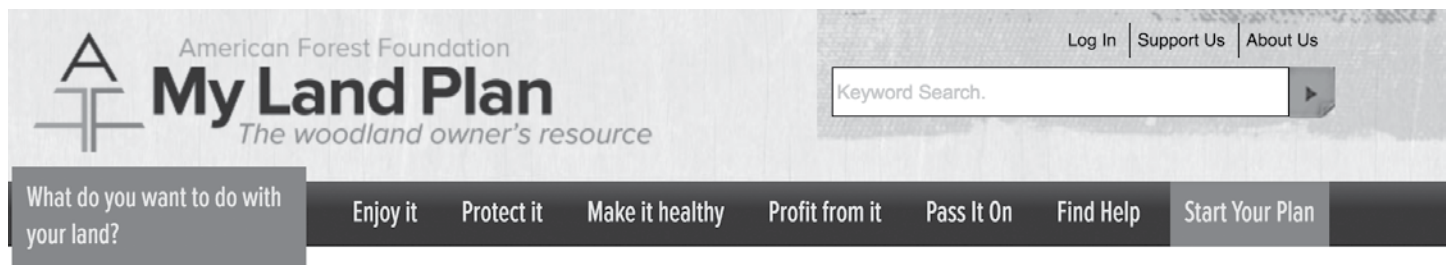
There is even a spot in *My Land Plan* where you can journal through words and pictures. This helps to remind you of where you started so that you can fully appreciate all of your progress. There is also a directory available on *My Land Plan* where you can access informational resources or find and contact a forester for technical advice.

Through *My Land Plan* you can think about your woods in five different ways:

**Enjoy It.** The possibilities for having fun in your woods are virtually endless. Find ideas on how to enjoy your woods to the fullest, safely and responsibly.

**Protect It.** Today's fragmented and stressed forests are fragile and need your care. Learn how to keep your woods safe from human threats and natural disasters.

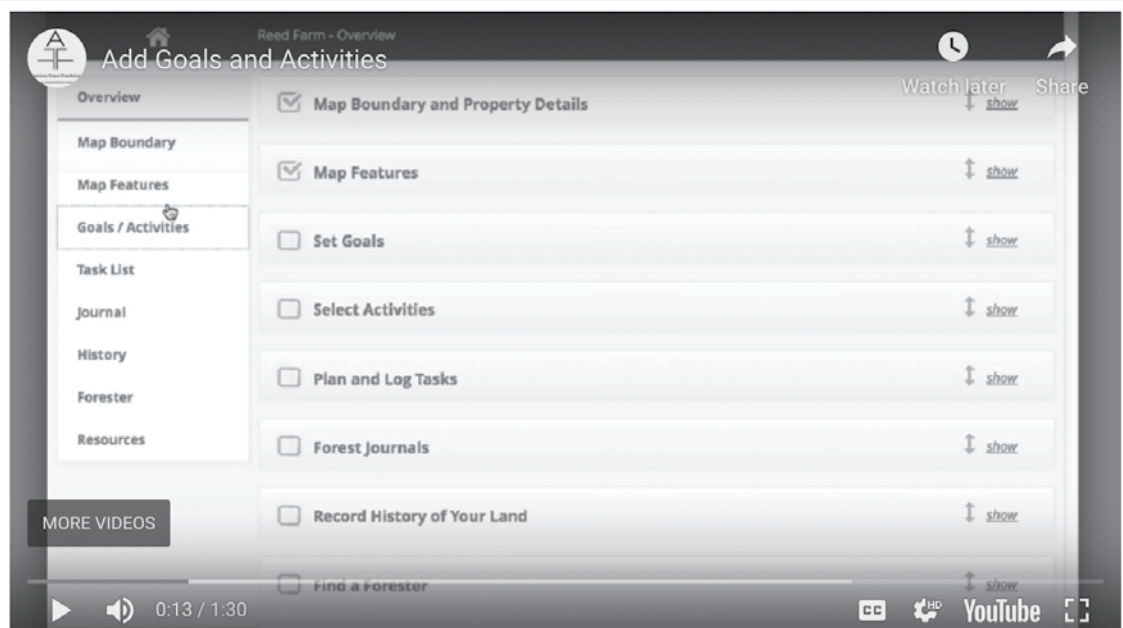
**Profit From It.** Your woods can be good for your spirits *and* your pocket.



## Adding goal and activities

### HOW-TO VIDEOS

- ▶ Overview - What is My Land Plan
- ▶ Getting started
- ▶ How to add a property
- ▶ How to add features and points of interest
- ▶ How to add goals and activities
- ▶ How to use the task list (to do list)



*My Land Plan can help you explore and discover how to manage your woodlands. Easy to use tools guide you to map your land, set goals, keep a journal, and connect with woodland owners and foresters.*

Learn about the different ways to earn income from woods - from sustainable timber harvest to carbon credits.

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as video tutorials that are provided on the site, getting started with your plan is simple.

No matter where you are in deciding what you want to do with your land, *My Land Plan* is with you every step of the way. Using *My Land Plan* is a fun way to plan for the future of your woods and to start thinking about priority goals for your land. 🗺️

*Editor's note: This article was provided by American Forest Foundation, a 501c3 nonprofit, that works on the ground with families, teachers, and elected officials to promote stewardship and protect our nation's forest heritage. A commitment to the next generation unites our nationwide network of forest owners – the American Tree Farm System, working to keep America's forests healthy and our children well-prepared for the future they will inherit.*

## 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
Kathleen Brannon	NAC	Richard Rivers	AFC
Scott B. Clarke	SOT	Virginia Ryan	SAC
Pia Davis	LHC	George Steele	CDC
Leo Drozdowycz	LHC	David Stensland	SFL
Glenhaven Farm	SFL	Cynthia Telles	CDC
Mark Hoffmann	SAC	Daniel Tresohlavy	WFL
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# Wild Bees Amidst the Trees

KASS URBAN-MEAD

## Who counts as a “bee?”

If I say “bees,” do you imagine bucolic hives, dripping honey, and admirably industrious workers waggle-dancing away? If so, you’re not alone. The European honey bee has captured the public imagination—and mine! Beekeeping connects many of us to the magic of insect communication, sociality, and pollination habits.

Yet, there is a vibrant buzzing world beyond our familiar honey-making friends. In fact, there are 20,000 fuzzy, pollen-eating *species* of bees abundant in our world. Four thousand species live in the US, and 417 in New York alone. Bees are unique from their wasp and hornet cousins because their larvae must eat pollen and nectar. Bees have special branched hairs to collect pollen. In contrast, wasps aren’t fuzzy and they eat “meat”—spiders and insects.

Wild bees come in lots of colors, shapes, and sizes, and need similarly diverse nesting habitats. Multi-species bee communities play a crucial role pollinating wild plants, fruits, nuts, and vegetables [1, 2]. While honey bees arrived on this continent in the 1620s, wild species have relationships with local plant communities going back thousands of years. Due to this



Figure 1. A “Cellophane bee” in the genus *Colletes* gathering pollen from a male red maple tree. Photo by author.



Figure 2. Common eastern bumble bee visiting an apple flower. Unlike carpenter bees, bumblebees have small faces and their abdomen is fuzzy, not shiny. Photo by C. Kitchen.

long history, some bees are specialized to only visit a single plant species, or only a single plant family which they need to survive.

Sadly, we know that just in NY, at least 53 of our 417 species are in decline. More must be done. Hope lies in evidence that providing flowers and nest resources supports populations (Figure 1). Farms and other properties with natural areas nearby usually have vibrant ecosystems abundant with wild species [3, 4].

## Common forest bees and where to find them

So, maybe now you’re on board that not all bees are honey bees. But, you say, I thought bee habitat was wildflowers, gardens, and meadows? It can be! Yet, when they head home from foraging on a meadow flower, many bees nest in the forest. And bees will also visit both understory and canopy flowers. In some studies, a higher amount of nearby forest is associated with more abundant bee species [3]!

Once your eyes are trained, you’ll find a grand abundance of wild bees in your forest insect menagerie. And you can help them thrive! First, let’s get to know a few bees.

## Bumble bees

Bumble bees are some of our most familiar wild bees (Figure 2). Unlike honey bee colonies, only the bumble bee queen survives the long cold months. Queens mate in the fall, then lay their eggs the next spring after a winter-long hibernation underground. In March and April, keep an eye out for queens searching for new nests along the forest floor. Look for them along sloping streambanks and other well-drained soil with good leaf cover. Abandoned rodent burrows make perfect cozy spots. During these searches, queen bumble bees also stock up on nectar and pollen from ephemeral flowers and spring-blooming trees. Once the nest is established, though, you won’t see the queen again—she’ll stay busy inside laying eggs all summer while the smaller female workers take over the



Figure 3. A male mining bee resting on a flower petal. Males of the genus are very commonly encountered in forests in early spring, while many females are fruit pollinators later in spring. Photo by C. Kitchen.

job of foraging. A single colony can have hundreds of busy workers!

### Mining bees & their parasitoids

Expert fruit tree pollinators, mining bees in the genus *Andrena* are unsung orchard heroes [5] (Figure 3). In the woods, some specialize on spring ephemerals such as spring beauty, *Claytonia virginiana*, and

are only active for a few short weeks each year. Their nests are in hidden underground tunnels, where they live “solitarily.” This means one female alone provides pollen for her baby bee larvae—with no help from any worker bees. She provides each new egg with a giant ball of carefully gathered pollen in its own tiny soil “room” along the underground tunnels. The egg develops into



Figure 4. Easily mistaken for wasps, parasitoid bees have hardened exoskeletons. This makes sense; they may need to fight their way out if they are discovered by a mining bee female while parasitizing her nest. Photo by C. Kitchen.

an adult on just that ball of pollen, and then waits many months underground to emerge the next spring.

*Andrena* nests are notoriously hard to find. One of the best ways to check the population level is instead to look out for their parasitoid in the genus *Nomada*. It’s a red or yellow toughly armored bee (Figure 4). Instead of gathering pollen, parasitoids usurp other bees’ nests by sneaking inside and laying an egg on the pollen ball. The egg hatches and the parasitoid larva takes over. Quite sneaky. In the spring you may find parasitoid bees weaving slowly across the forest floor, searching for other bees’ nests. Seeing these parasitoid bees is actually a good sign—abundant parasitoids are a clue that suggests an abundant host population!

### Masons and leaf cutters: the fuzzy-belly bees

Keep an eye out for these stocky-bodied fast flyers. This family is unique from other bees; they carry their pollen in special thick hairs on the underside of their abdomens, instead of on their legs (Figure 5). The most famous is the mason bee. You may have heard of people putting “bee hotels” made of tubes of cardboard or sometimes from correctly-sized stems and stalks, such as *Phragmites*.

A female begins her nest from the back of each tube in the hotel—or in a hollow stem, or abandoned tunnel in a tree or log. Like the mining bee, she takes many trips to flowers and builds up a large ball of pollen—again, enough to feed a bee to adulthood. Then she lays an egg on the pile of pollen and builds a small wall of mud to protect it before beginning again. Eventually, the tube fills up with a row of pollen balls with eggs on top, to become a row of bees that will emerge the next spring.

While mason bees are named for their use of mud, their “leaf-cutter” cousins instead build the walls between their baby bees with perfectly round circles of leaves. If you see an endearingly perfect circle cut from a rose petal or redbud *Cercis* leaf, a leaf cutter likely took it for her nest.

### Sweat bees

Often mistaken for flies, small sweat bees occasionally prove themselves a nuisance while sipping on your body’s

Continued on page 14

## Wild Bees (continued)



Figure 5. You can recognize the family of mason bees and leaf-cutter bees by the pollen-collecting hairs on the underside of their abdomen! Can you see the dense hairs carrying pollen on this mason bee's belly? Photo by C. Kitchen.

salts. Most of the time they're quite busy enough stocking up on pollen at flowers. Interestingly, the most brightly colored iridescent species in this group are the species that live in the forest (Figure 6). They nest in rotting logs and other punky wood (Figure 7). These bees are mostly social, living in busy colonies.

During my research, I have found dead oak branches high in the canopy where shiny green bees flit in and out of small burrows in the punky wood.

### And beyond....

This is just an introduction to the common groups of bees in our area. Another bee that loves to visit maple trees is the Cellophane bee, *Colletes inaequalis* (Figure 1). A soil-nesting bee, the female "paints" a special cellophane-like secretion on her nest's walls to keep out mold, and is only active in the trees for a few weeks in early spring. There are also miniature carpenter bees in the genus *Ceratina*, which nest in hollow stems like Sumac and raspberries. These bluish-green bees chew out the pith of the plant with their strong

jaws and are easily recognized by the small yellow patch on their faces. Each has its favorite flowers, and special place in the local ecosystem.

### What's a forest owner to do?

Excitingly, many ecological forest management and wildlife habitat strategies are likely to *also* support your pollinator populations. For example:

**1. Try uneven-aged management.** Maximize niches! Light-filled gaps created by single-tree, patch selection, or shelterwood harvests will fill to the brim with flowers. Bee foraging activity is often highest in forest openings; common growth at this stage of succession include plants like raspberries, whose stems are habitat for stem-nesting species. Slash may create nesting habitat and protection. Niche diversity in multi-aged stands generates homes for rodents whose burrows can later be bumble bee homes, and (non-pest) beetles whose tunnels support tunnel-nesting bees.

**2. Keep coarse woody debris & standing deadwood.** Coarse woody debris and standing deadwood provide habitat. In a recent paper, researchers reminded us "[s]aproxylic bees and wasps are

endangered due to the loss of old trees, as well as due to the removal of dead wood" [6]. As described above, bees in the fuzzy-belly family that nest in tunnels and preexisting cavities such as those in snags, while shiny green and blue-black sweat bee colonies are housed in punky and decomposing wood.

**3. Manage for tree diversity.** Tree species diversity overlaps with the above management goals, but I emphasize it again now for bee health and nutrition. Bees collect saps and resins to help waterproof their nests, and as anti-microbials, and even as self-medication when challenged by parasites (e.g. from *Populus* [7]). Different compounds may be needed from different species, and a diversity of species means more consistently available saps and resins.

There is also increasing evidence that canopy flowers are often used by bees as a food source. Bees collect pollen not just from the well-known resources of willow, maple [8], and chestnut, but even the flowers of completely wind-pollinated species including oak, ash, hickory, beech, and fir [9]. I have seen oak trees in full bloom a-buzz with at least 12 species in just one day. Abundant pollen means abundant protein for baby bees! Trees bloom at



Figure 6. This shiny green sweat bee displays an interesting characteristic of many forest insects: it is iridescent! Entomologists guess that a high proportion of forest-associated insects are iridescent because the light reflections confuse predators as they flit between patches of shade and sun [10]. Photo by C. Kitchen.

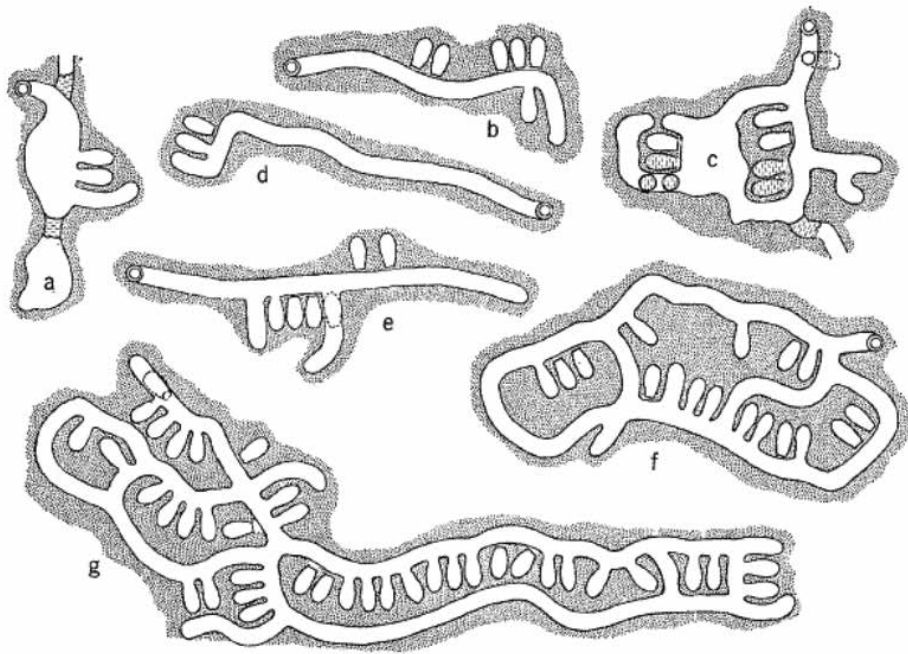


Figure 7. Diagram of nests excavated by the shiny blue sweat bee *Lasioglossum coeruleum* inside rotting logs on the forest floor. Tunnels into the nest were sealed with sawdust plugs. The small cells each hold a single pollen provision and egg to grow into a new bee. Figure from Stockhammer 1967 [11].

different times and mast in different years, so multiple species are important for consistent pollen availability.

**4. Manage for vertical diversity.** Bees are small, so small habitat changes can mean big changes in niche availability. Multi-age and -size trees generate a matrix of environments. These may be contrasting light levels, leaf types and textures, nearby shrubs or understory communities, different bark textures, and beetle communities who leave behind different sizes and shapes of abandoned burrows. As mentioned above, while tree-climbing to observe bee behavior in the canopy, I've found mini-carpenter bee and shiny green sweat bee nests in dead branches at 60 feet high! Niche diversity is vertical, too.

**5. Consider bees in any pesticide applications.** As described above, bees visit forest tree blooms for food. For targeted sprays or trunk injections, consider if it would be possible to wait until bloom is over. The concentration of the pesticide expressed in pollen or nectar should be quite low by the time the tree blooms again another year. Bees also visit understory shrubs and spring ephemerals, which could be impacted by soil drenches of insecticides able to translocate and be taken up by nearby roots.

**6. Start by supporting the bee diversity you have.** Generally, adding new managed bees is not the best way to encourage wild bee health. Sometimes they compete with wild species and can even carry pests and pathogens. Instead, prioritize keeping your yard messy with habitat, your flowers abundant for nutrition, and think about bees in your forest management as described above. The bees in your trees will thank you.

### All in all, bees are wildlife too

Of course, not all of these actions may be appropriate for each forest or woodlot's age, history, soil type, tree composition, or land-use goals. Ask your forester to help you figure out how best to make your wildlife management plan work for pollinator diversity. Remember, there are 417 species just in New York State alone, part of the 20,000 species in the world beyond our beloved honey bee. The bees are beautiful, their life cycles are complicated, and their behavior is crucial for the plants we love and the food we eat! 🐝

**Contact me:** Feel free to reach out to me at [kru4@cornell.edu](mailto:kru4@cornell.edu). Bees in forests aren't as well-studied as other ecosystems, so I'm always excited to learn and share new natural history observations. I am also

available for talks and outreach events with advance notice.

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# 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

## PAINTING OUR WAY OUT OF A CORNER

BY PAUL HETZLER, ISA CERTIFIED ARBORIST

Each time I present on invasive pests, no matter which species is topical, I begin with a slide of Chicken Little, a character who fomented mass hysteria by convincing the other animals the sky was falling. It's usually good for a chuckle. Inevitably I then proceed to unload a barrage of science on the heads of my poor audience, displaying bar graphs, pie charts, alarming statistics, and full-color photos of mayhem wrought by the particular pest of interest. There's a final slide that shows the position of the sky (up), with arrows in the direction of gravitational pull (down) at 9.8 m/s/s, clear proof that the sky is indeed falling. For some reason, fewer people laugh at the end. Go figure.



*Chicken Little, a centuries-old character, persuades other animals that the sky will soon fall, leading to panic and paralysis.*

Mark Whitmore did a very effective job in the last issue of outlining current invasive-species threats to forest health in New York State as we understand them. Obviously, the pests of which he has warned us are no joke. Yet I think Mark would agree that educators often come across like Chicken Little, perceived as squawking about yet another threat to the trees. It would be hard to blame the average forest owner, or the public in general, for asking themselves, gosh, how many times the can the sky fall, anyway?

The term “compassion fatigue” describes the way we have become inured to accounts of wars and famine because such reports come at us so fast and frequently. A 2018 Pew Research Center survey found that in the US, 68% of us mentally tune out most news, and in 2019 the Nieman Journalism Lab documented a small but fast-growing segment of the population who actively avoid all news. This trend has big implications for forest health.

While threats posed by invasive species are alarming, what is more concerning is the risk of feeling so overwhelmed that we throw up our hands and start to tune out further information. That's right — in my opinion, the danger of thinking we can't make a difference, and therefore should not bother, could end up causing as much harm to New York State's forests as the pests themselves.

I'm not a fan of pithy fables, like the one about a child who rescues starfish from the beach after storms, returning them to the ocean. When told not all starfish can be saved, the kid hurls another into the surf and quips “that one

can.” I won't insult your intelligence by suggesting you save a few trees by throwing them in the sea or whatever is analogous. Right now we have the chance to help preserve red oak species by adding an affordable, largely time-neutral, and deceptively simple practice to our management plan. If that sounds implausible, read on.

First a pitch for keeping our head out of the sand. Roughly 40% of new invasive-species infestations are discovered by informed citizens — people who knew about the issues, but were not paid to look for them. The New York State Integrated Pest Management Program (IPM) will back me up that statistic. Hopefully.

In 2011, a high-school girl on a science field trip found hydrilla, the most aggressive aquatic invasive plant in North America, in a Cayuga Lake inlet in Ithaca, the first find of this species in NYS. Did she save the world? Well, who wants that anyway — your life would be a media-attention nightmare. But had it taken another year to detect hydrilla, the situation would be far worse.

As woodlot owners, we owe it to ourselves to keep up-to-date on forest pests and diseases. But in the face of threats enumerated in Mark's last column, it's essential we spread the word, too. Opportunities for presentations abound: your child's (or grandchild's) school, Scouts, Rotary, and other civics groups, and garden clubs. Perhaps your place of business or worship would display fact sheets. Check with your Cornell Cooperative Extension office or Master Forest Owner volunteer for help locating PowerPoint presentations and fact sheets.

Mark talked last time about oak wilt, a virulent pathogen first identified in 1944 in Wisconsin. It's of unknown origin, but certainly behaves like an invasive. As he mentioned, it spreads by root grafts as well as through spore transfer. Underground tree-to-tree spread, while an important consideration near known outbreaks, is in the larger picture much less important than airborne transmission. This latter route of infection is where we come in.

Oak wilt kills healthy red, black, pin, and other red-type oaks specimens in two to six weeks. White-type oaks take a



Month	Risk	Pruning	Timbering	Firewood Movement
Apr-July	High	NOT recommended, immediately cover wounds with paint	NOT recommended, immediately cover wounds with paint	NOT permitted
Aug-Sept	Low	NOT recommended, immediately cover wounds with paint	Can be done, should still look to minimize oak wounding	Requires DEC permit
Oct-Mar	Very Low	Recommended, no need to cover wounds	Recommended	Requires DEC permit

*Various recommendations for oak.*

year or two to die. After a red-type oak succumbs, the pathogen makes mycelial spore pads under the bark, causing small bark splits. A spore-laden flux, reported to smell like Juicy Fruit gum, is secreted, which attracts insects, the most significant of which are sap beetles in the family Nitidulidae.

Nitidulid beetles feed on sugars from the sapwood of newly cut oak stumps, pruning, and other wounds. Normally, not a problem. UNLESS the beetles have recently wallowed in spores at an oak-wilt spore pad. Though spore pads develop only on red-type oaks, all oaks can be infected by a spore-covered beetle.

So here's the big news: Paint is your friend.

From April 1 - July 1, the risk of spreading oak wilt is extreme, and from July - September it's moderate. Any exposed fresh wound on an oak, whether stump or a pruning wound, puts them at risk. Ideally, do not cut oaks, or allow them to be wounded, from March through September. Okay, now stop laughing. We all know this won't always be possible. The work-around is to spray-paint each wound or stump IMMEDIATELY after cutting. I emphasize immediately because nitidulid beetles will find fresh oak sap within

an hour. On pruning wounds, paint the whole thing, but for stumps, only the sapwood needs to be covered. And it can be any exterior paint; whatever you have.

**The painting of oak stumps and pruning wounds between March 1 and September 30 must become standard practice in the forestry, utility-clearing, and tree-care industries. Effective this coming spring. Demand it in your logging harvest contracts, and from any arborist you hire. Everyone plays – no exceptions!**

Oak wilt is not hundreds of miles away from you. It is as close as the first idiot who brings firewood home from visiting his buddy whose dead tree he helped cut up. No matter how insulated you feel you are from this disease, please adopt this practice. There are so many issues which are truly out of our hands, yet here is a case where we can hold the line. Implementing these guidelines can vastly reduce the risk of seeing oaks go the way of the American chestnut. If you suspect you have seen oak wilt, please contact the NYSDEC at [foresthealth@dec.ny.gov](mailto:foresthealth@dec.ny.gov) or 1-866-640-0652.

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

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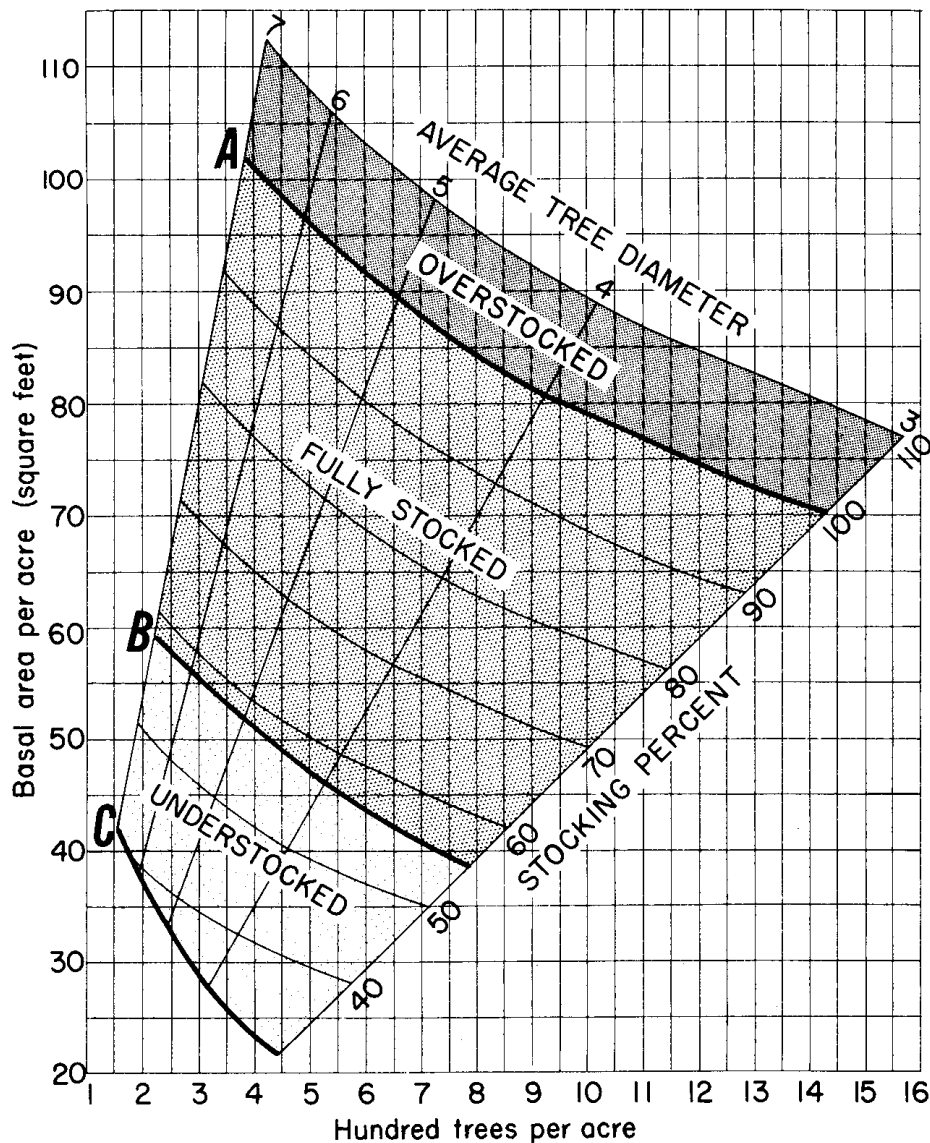


Figure 5. A stocking chart for upland oak habitats illustrates that a fully stocked stand with average stem diameter equal to 5 inches has 650 stems per acre, and 500 when it grows to an average of 6 inches. This is a 23% reduction in stem density with a one inch increase in average stem diameter. Stocking charts are also available for northern hardwood forests. Figure adapted from S.F. Gingrich. 1971. USFS Research Paper NE-195. Available at <https://www.nrs.fs.fed.us/pubs/8318>

trees to form a closed canopy and develop straight, limb-free stems.

In many northeastern woodlands, harvesting or other disturbances create openings in the canopy of a mature forest that allows sunlight to the forest floor. That sunlight stimulates the germination of seeds and growth of seedlings (Figure 4). If the harvest was planned and thoughtful, the trees available to produce seed are of desirable species and form. Once seedlings attain sufficient height and number (more on that later), and they are sufficiently robust to withstand the change in temperature and

humidity, the overstory is removed during one or more additional harvests.

An important ecological theory to consider in the regeneration process is called “initial floristic composition”, which is a well-documented explanation for how forests initiate and develop following disturbances. This theory was presented by F. Egler in 1954, and importantly states that the majority of plants that are initially present and eventually dominate are established before or shortly after the disturbance event or harvest. What this means for stand regeneration and development is

that if the harvest area does not include an adequate number of desirable species within a few years, those species are not likely to establish without an additional disturbance. It is possible for a stand that was subject to a harvest or disturbance to become dominated by undesirable species that exclude or suppress desirable species.

Young stands need an adequate number of seedlings per acre to allow for the formation of high quality stems and to optimize growth per acre. The young forest will have many thousands of stems per acre (Figure 5). As that forest develops, the trees compete for sunlight and some die. For each increase of one inch of diameter, approximately 20% of the stems must die. This is the basis for thinning; many trees will ultimately die and preemptive selective mortality will ensure the desired trees have sufficient sunlight to thrive.

Not every harvest needs to regenerate an adequate stocking of seedlings as the replacement of the current forest. Thinning, timber stand improvement (TSI), and similar “cultural treatments” are done to improve the quality of the current stand and not to create the next stand. To the extent the treatments increase sunlight to the forest floor, there will be some vegetative response. That response is typically the establishment of seedlings of desirable and undesirable species. However, if deer browse the desirable species, then the height growth and survival of the undesirable species are favored. As a result, the undesirable species overtop the desirable species, and the undesirable species will dominate the sapling layer. If this happens, subsequent treatments will be needed to correct the condition.

### Regeneration Success by the Numbers

Numerical targets can help define when a stand is regenerated. Think backwards in time from a mature stand which is fully stocked when it has several hundred trees per acre to a young stand with thousands or more seedlings and saplings per acre. Because of the mortality that happens during stand development, there needs to be a large initial number of seedlings for full stocking; the actual number depends on the size and species of the seedlings. USFS research



Figure 6. Master Forest Owner volunteers attended a forest regeneration workshop and practiced using 6-foot radius circular plots to estimate seedling height and density. Note, in this picture, there are zero stems of desirable seedling species, only American beech.

scientists have developed seedling density thresholds that are associated with successful regeneration of northern hardwood forests (i.e., maple, beech, birch, ash, basswood, etc.), Allegheny hardwoods (i.e., northern hardwood plus significant numbers of black cherry), and oak dominated forests.

Prior to harvesting, there are seedling density thresholds suggested by the USFS that guide the prescription. Assessment of these thresholds requires a deliberate inventory. The inventory data is used to assess if there is adequate stocking of advance regeneration and other stand attributes (details at <https://www.nrs.fs.fed.us/tools/silvah/>). Recommendations to assess seedling density relative to the

threshold involves an inventory with approximately 4 plots for every 3 acres, each with a 6-foot radius (Figure 6). The stand is also assessed for deer impact and the abundance of different types of interfering vegetation. Stands with higher deer impact have higher seedling thresholds, and a consistent presence of interfering vegetation presumes treatment for its control. Taller seedlings are counted twice. A simple walk through a section of the woods is not sufficient to assess seedling abundance and whether the stand is ready for regeneration. The seedling density threshold requires 70% of the plots to be “stocked.” A plot in a stand with a deer impact rating of 3 (i.e., moderate) is stocked if it has 20 or

more black cherry seedlings (equal to 7,700 per acre) or 50 seedlings of other desirable hardwoods (equal to 19,257 per acre). The oak threshold density per plot is between the thresholds for cherry and other hardwoods and depends on oak seedling size. For a deer impact rating of 4 (i.e., high), the number of seedlings necessary to classify the plot as “stocked” increases by 25% to 100% depending on species. The prescription for cutting, fencing, waiting, herbicides, etc. depends on stand maturity, overstory conditions, whether 70% of the regeneration inventory plots are stocked, the frequency of plots with interfering vegetation, and other factors.

After a harvest, continued inventory is necessary to judge if the stand has successfully regenerated. Inventory usually begins 2 years after the conclusion of the harvest. The ultimate measure of successful regeneration is if 70% of the 6-foot radius plots have at least two stems of desirable or acceptable species that are at least 5 feet tall; this amounts to an average minimum of 540 desirable stems > 5 ft tall per acre.

Forest regeneration is a process with many obstacles. Work with a good forester and invest in an appropriate inventory to measure your potential and your success. If the harvest wasn’t successful, determine what needs to change and work towards success. Management prescriptions that include a reference to “hope” likely need additional thought and effort. 🌱

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# Member Profile:

## *Carol and Gerry McDonald*

BY GERRY McDONALD AND EDITED BY DORIAN HYLAND

Carol and Gerry grew up in Albany but didn't meet until a chance hitchhiking encounter in 1980. They married the following year and raised two children, a daughter now residing outside Boston and a son who lives locally. Gerry worked for the NYS Department of Health as a public health environmental specialist for 32 years; he retired in 2011. Carol is currently the vice president of finance for Albany Medical Center hospital.

After fixing up an old starter home purchased in 1982, they bought a small nine acre parcel of land in the Town of Coeymans in rural Albany County in 1988. Gerry was a fledgling woodworker and once he realized the trees on the property could be milled into usable lumber, he moved forward with his hobby in earnest. They built their first house in 1991 and Gerry built all the cabinets and countertops, and made the trim from wood off the property.

In 1995, a 130-acre parcel in nearby Coeymans Hollow went up for sale. Gerry was attracted to the property because of its large parcel size, extensive woodlands, and the potential for a beautiful, accessible building site with a long flat driveway (!) and an affordable price. During 1995 and 1996, Gerry cleared and prepared a building site and they built their dream house in 1997. Again, Gerry finished most of the home's interior using mostly red oak, maple, and cherry from the land.

The topography is a mix of flat areas separated by steep slopes with shallow soils overlying shale and is transected by numerous stone walls. The east side of the property is comprised of flat, old pasture lands containing stands of white pine with some hardwoods and red cedars. A stand of sugar maples grows near an old bluestone foundation on the first flat. Bluestone from the foundation was repurposed to build the exterior



*Carol harvests shiitake mushrooms from oak bolts that were collected from the woods.*

perimeter wall and the fireplace in the new house. After another flat of recolonized farm fields, the top flat of the property is rocky, high and dry, and is stocked with mostly chestnut oak with some white and red oak interspersed. This area has a dense understory of oak saplings that get browsed so heavily that in summer it looks like a 3-foot-high oak-leaf carpet with almost no saplings above a deer's head height. As the terraces drop off to the west, the tree species change to more hemlock and older growth hardwoods with fewer but larger and older white pine. There are four vernal pools on the property that contain water in all but the driest summer months. Here the sounds of the woodland frogs are enchanting if you can catch them during spring mating time. The terraces drop off in the back to a very steep face of an old bluestone quarry with the old haul road still occasionally used as an ATV trail. The back of the property is bordered by a small canyon through which flows a creek that feeds the Alcove Reservoir, Albany's water supply.

Soon after purchasing the property, Gerry worked with Gerry Andritz of the NYS Department of Environmental Conservation who provided an initial Forest Management Plan. The plan called for heavy thinning in 30 acres of



*Shiitake bolts and firewood from cull trees provide better growth for residual trees. The bolts are used for a forthcoming NYFOA workshop and firewood heats the house. Also provided, at no extra cost, is the great exercise. Note the corduroy road over soft soils.*

*continued on page 22*



*A beautiful bucket of shiitake mushrooms, harvested from oak bolts. The fruit of labors.*

monoculture white pine stands and with some funding assistance from the National Resource Conservation Service (NRCS). Gerry thinned ten acres each in the years 1996 and 2000. The plan also called for

an improvement harvest of much of the remaining 100 acres, which was carried out in 1999/2000 with the assistance of a cooperating forester. The harvest of approximately 80,000 bf of oak, white pine, and hemlock provided a network of logging roads which are used to this day. Despite having a forester manage the sale, Gerry had disputes with the loggers who damaged quite a few of the residual oak trees, many of which were subsequently cut and used as firewood.

The McDonald's acquired a TARM dual stage wood gasification boiler in 2008 and have been heating with mostly wood since. About six cords of mostly oak and hickory have replaced approximately 1,200 gallons of fuel used annually for heating and hot water. Gerry selects and harvests trees in the winter, focusing on removing those with poor form and thus providing a crown release of better



*A NYFOA mushroom inoculation workshop and "work party." Helping others learn the joy of working the woods. (Notice the nicely stacked one- and two-year old firewood on the hill in the background.)*

trees. He has a Kubota L 2850 4wd tractor with a front plow blade and a 3 point hitch back blade. He plows the logging roads when needed and finds no greater joy than being in the woods on a cold morning dragging a couple of logs chained up to the back. He splits and dries his wood for two years in single rows to maximize drying for maximum performance in the high efficiency wood boiler. When Gerry attended the NYFOA sponsored Game of Logging, it had a huge impact on the way he approaches tree cutting. "It's amazing how the directional felling techniques take the guesswork out of tree cutting and there's a much-enhanced focus on safety," he said.

Gerry and his son, Tom, are avid deer hunters and along with friends harvest several deer from the property every season. Venison is a staple food, especially in winter and spring when the abundance of garden vegetables is sparse. The time they spend in the woods gives them chances to see the other woodland inhabitants including fishers, coyotes, fox, porcupines, pileated woodpeckers, turkeys, various hawks and owls, as well as the numerous red and grey squirrels and chipmunks.

After watching a Ted Talk by Paul Stamets on using oyster mushrooms to detoxify oil contaminated soil, Gerry became intrigued. Soon after Gerry and Carol joined the Mid-Hudson Mycological Association to learn more about these wild mushrooms. Since then they have harvested many pounds of an almost unimaginable variety of delicious, edible mushrooms including chanterelles, black trumpets, hedgehogs, lobsters, maitake, porcini, puffballs, pink bottoms, oysters, milkys, and even matsutake. They host an annual club walk on their property every July, and in wet years, participants have collected full baskets of good edible wild mushrooms. Gerry also grows his own shiitake mushrooms on oak cut from the tops of firewood trees and harvests some 20 to 30 pounds throughout the warmer months. Gerry has hosted several shiitake inoculation workshops for the mycology club and for NYFOA members where participants implant inoculated hardwood plugs into freshly cut bolts of mostly oak. He has approximately 40 logs and fruits them twice over the course of the year by soaking the bolts in a 55 gallon drum of



*Gerry has enjoyed the ability to use lumber from his woods for several woodworking projects. Pictured, Gerry and his son Tom stand with a prize-winning piece of furniture built from their trees turned into lumber.*

water for 24 to 48 hours. Usually within a week of soaking, a harvest of shiitakes is ready to pick!

Gerry says learning about mushrooms has opened up a whole new perspective on how he views the forest. Instead of seeing individual trees, he sees his woods as a super-organism with many varied components that are all interacting with each other. Instead of seeing dead wood on the ground, he sees food that saprophytic fungi decompose, helping enrich forest soils and providing shelter

for the many organisms that create the invisible foundation for the forest. He’s amazed at the fact that a tree’s mycorrhizal partners can have 100 times the surface area of the tree’s roots and that the flow of nutrients is a two-way road in which the fungi mycelium provide water and minerals to the tree and the tree provides sugars to the fungus.

Twenty years after thinning successive white pine stands, a new understory of hardwood trees has emerged. One 10 acre stand is dense with mostly sugar maple with some red and white oak and hophornbeam saplings reaching 15 to 25 feet high struggling to chase the light between the remaining white pines. Mostly red maple with some red and white oak is coming up in the other stand. It’s notable that the unsightly mess made by the white pine thinning discouraged deer browsing and allowed for good hardwood regeneration. During a NYFOA woods walk in 2015, a forester recommended cutting the white pine overstory above a couple acres of sugar maple sapling regeneration. That thick young hardwood stand is the future.

Gerry is currently working with the NRCS and a local forester to update the forest management plan. “I can’t wait to see what ideas she has for those white pine stands. I know I’ll personally never benefit from the work I’ve done there, but it’s so satisfying to see the beginnings of what will be some beautiful



*After a heavy thinning of a white pine stand 20 years ago, hardwoods established and flourished. More recently, Gerry cut the residual pine overstory to release a nice future stand of hardwoods.*

hardwood stands in 50 or 100 years.” He’s also working on an application for 2021 to perform a young forest initiative on a 5-acre area where most of the trees will be cut leaving a veritable “hurricane zone” intended to exclude deer and larger predators, and simultaneously provide habitat for small animals and birds that require young forests. He’s hopeful this will ultimately result in another stand of quality hardwood saplings.

His advice to other forest owners is to take the Game of Logging course if you haven’t already. “It made a huge difference in the way I approach tree cutting. In addition, hire a forester to manage any timber harvests, and if possible, stipulate penalties for excessive damage to residual trees,” he said. In conclusion, he advises everyone “to use the resources available out there, especially NRCS to help get funding to cover a management plan and other activities where there is funding assistance.”

*If you would like to be considered for a member profile, please contact Jeff Joseph, chair, NYFOA editorial committee at [jeffjosephwoodworker@gmail.com](mailto:jeffjosephwoodworker@gmail.com)*

*Dorian Hyland, is a writer for The New York Forest Owner landowner profile.*

### Table 1. Summary of property activity and work schedule

1995	Property purchased.
1995	NYSDEC forest management plan 1996 – thinned 10 acres of white pine 1995 1996 cleared building site.
1996	Installed well and in ground septic system 1997 – built house.
2000	Timber improvement harvest 2000 – thinned 10 acres white pine.
2001-2017	Several small harvests of larger oak trees and white pine. Quarter-sawed the oak for use in building most all the house furniture and built-ins.
2000-2018	Every other year tapped 30- to 35 maple trees for syrup production. Yields ranged from 12 gallons to 21 gallons.
2008	Installed a TARM high efficiency wood gasification wood boiler in basement. We burn about 6 cords per year instead of previously using approximately 1200 gallons of oil.
2010	Joined the Mid-Hudson Mycological Association and learned to identify and harvest edible wild mushrooms.
2011	Started growing shiitake mushrooms.
2011-Present	Host an annual MHMA mushroom foray and pot luck lunch event in late July.
2015	NYFOA woods walk.

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