The New York Forest Owner

A Publication of The New York Forest Owners Association

For people caring about New York's trees and forests

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Under 40: The Next Generation of Woodland Stewardship—Eli Arnow

Volume 62 Number 2

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Volume 62, Number 2

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The New York Forest Owner is a bi-monthly publication of The New York Forest Owners Association, PO Box 644, Naples, NY 14512. Materials submitted for publication should be sent to: ***Mary Beth Malmsheimer****, Editor, The New York Forest Owner, 134 Lincklaen Street, Cazenovia, New York 13035; Materials may also be e-mailed to mmalmshe@syr.edu; direct all questions and/or comments to jefffjosephwoodworker@gmail.com. Articles, artwork and photos are invited and if requested, are returned after use.* ***The deadline for submission for the Mary/June issue is April 1, 2024.***

Please address all membership fees and change of address requests to PO Box 644, Naples, NY 14512 or ckenney@nyfoa.org. (607) 365-2214. Cost of family membership/subscription is $55.

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Cover: Eli Arnow at work restoring and protecting forest diversity on his family-owned land. Photo courtesy of Eli Arnow. See story on page 4.

From The Executive Director

"Ask not what you can do for your country, but what has your country done for you."

Wait. What? I don't think I'm quoting that quite right. Well... maybe in one sense. Anyway....

It came to my attention recently that a member asked, "What have they [the state level of NYFOA] done for us?"

My first reaction was to pridefully think, "A lot. Isn't it obvious?" My second reaction was to think that if someone must ask it, then maybe we are not communicating the answer well enough. My third reaction is to humbly apologize for the first two and then provide an answer, which I will get to in a moment. My fourth reaction is to thank whoever asked the question, because it will always be a legitimate one, but one I hope is answered before it needs to be asked going forward.

I have always said that there should be no surprises in a year-end performance review. Through self-evaluation one should know where they shine and where they need work, and if there's regular feedback from one's supervisor, their evaluation should be mostly predictable. In our case, however, we may have come up a little short in our self-evaluation on communicating. But this issue is timely, because we are in the process of seeking ways to do a better job of telling you what NYFOA is up to.

In our donation appeal letters, we try to communicate NYFOA's value. We also hope that it's value is obvious through the programs, events, woods walks, etc. we put on. After all, those are the core of fulfilling our mission. But there are also less obvious actions taken behind the scenes that are valuable too. The board and chapter leaders know of these, but that information is probably slow to trickle down to you or gets lost along the way. A couple of one-page letters and word of mouth is probably just not enough.

So, let's start with a few tidbits for now and we'll try to do better going forward.

- We put together four regional conferences to bring the "statewide" meeting to you. Attendees seemed to enjoy the opportunity to learn and socialize. If you couldn't attend one, we hope you will this year (see page 15 in this issue).
- We partnered with the Audubon Society to host several bird habitat management field workshops that they provided grant funding for, with more to come.
- We put together and hosted two days of forestry seminars at the NYS Farm Show.
- We put together and hosted an Introduction to Estate Planning webinar.
- Every chapter puts on at least one program a year; they are open to all, not just the chapter.
- We started holding Chapter Chair roundtable meetings, so they

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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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Under 40: The Next Generation of Woodland Stewardship—Eli Arnow

Coordinated and Edited by Jeff Joseph

Please provide a brief background on yourself, including your age, educational background, occupation, etc.

I am 34 years old. I have an undergraduate degree in mechanical engineering, and a masters degree from SUNY ESF in environmental science with a concentration in ecosystem restoration. I did custom woodworking for several years after grad school. My interest in woodworking began after Hurricane Sandy when I started milling up timber that fell in that storm, learned to dry it, identify trees, etc. I still do some custom woodworking in addition to property management. Recently I was invited to join a forest health task force organized by Partners for Climate Action (PCA), a Hudson Valley based non-profit. We are exploring the ways that new leadership, public education, and philanthropy might help address the crisis of deer overpopulation in NY. I am also the chair of our town's Conservation Advisory Council.

As part of my involvement on our Conservation Advisory Council we applied for and received an Ecological Restoration Grant from PCA to build a deer exclosure at our town's conservation area. It was through this project that PCA learned of the problems associated with deer overpopulation and invited me to join their Forest Health task force.

How much land do you own? How much of the land is wooded?

I help steward a few hundred acres of land in the Hudson Valley, the vast majority of which is wooded.

When did you take ownership of your land? Was it from within the family or outside the family? If outside the family, what attracted you to purchase that particular parcel?

It is family-owned land, initially purchased by my grandfather in the late 1960s. My wife and I started taking a more active management role when we moved here full time in 2020.

What motivated you to become a woodlot owner? What motivates you to engage in the active management of your woodlot?

A sense of responsibility motivates me to help manage the land. I was raised to deeply appreciate and respect nature. I think it was ingrained in me that we are a part of nature, not separate or apart, and that we have a responsibility to leave things better than we found them. For me, helping to restore biodiversity, ecological function, and resilience is the cornerstone of active land management or stewardship. Hopefully, when my time as a steward of the landscape I love starts coming to an end (with any luck in 50+ years), our management decisions will have resulted in a landscape rich with native biodiversity, big beautiful trees, and a healthy and forest resistant to climate change.

Who participates in the management decisions and the actual work? Where do you obtain information to guide your decisions?

My wife, who is an environmental scientist and educator, and I are behind most of the larger land management decisions, but my family also participates and provides feedback on stewardship activities. Final decisions are approved by the consensus of the larger family. Luckily, we have a pretty-free hand, and the family has trust in us that we will do what is best for the landscape.

I am lucky to have a mentor in the Department of Natural Resources at Cornell, from whom I have learned a tremendous amount, and we communicate frequently about management for biodiversity. I voraciously read scientific articles on topics of forest health and native biodiversity stressors and I have Google scholar alerts set up for newly published research. I also follow the work of many scientists, land managers, and organizations that focus on invasive species management, restoration practices, and forestry.

Describe the overall makeup of the land, the topography, water features (ponds, swamps), surrounding landscape, etc.

The property we steward is located in the foothills of the Taconic mountains in Columbia County, NY. The land is diverse in habitat and topography, including wet meadows and dug ponds in low areas, chestnut oak dominated rocky uplands, red maple dominated swamps, and over 100 acres of open fields. Some of the property was an active fruit farm and orchard from the 1950s through the 1990s, when most of the orchards were removed and the property was left fallow. Another part of the property was a former sheep farm, much of which was abandoned in the 1920s and has since reforested. The surrounding landscape is mostly forested and part of a critical regional forest corridor as classified by the DEC.

Describe the land's vegetation. Types of trees that dominate? Presence of and type of understory vegetation?

The forest overstory is dominated by red oak, interspersed with white oak, chestnut oak, hickory, and some sugar and red maple. We find white pine and chestnut oak on the ridges, and red maple, and swamp white oak around forested wetlands. In addition, we have some striped maple, aspen, black birch, and abundant hop-hornbeam (one of the only midstory trees deer do not eat). Ash and hemlocks have been hard hit by emerald ash borer (EAB) and hemlock wooly adelgid (HWA respectively. In areas once dominated by hemlocks or ash, only a few birch and hop-hornbeam are recruiting to replace them. The age distribution of most tree species (other than hop-hornbeam, the only species of which we find sapling recruitment) is strongly skewed towards older individuals, with all branches above deer browse height. We find no evidence of overstory tree regeneration beyond the seedling stage occurring across the property. The combination of high invasive plant pressure in conjunction with chronic deer overpopulation means that any area where there is a canopy gap immediately fills with invasive plant species like autumn olive, Japanese stiltgrass and Japanese barberry. I can count on one hand the number of oak saplings between 3-5ft tall across the whole property. Unfortunately, this is the norm for much of the Hudson Valley.

In many areas the forest understory of shrub and herbaceous plant communities has been severely depleted by a combination of previous land use and decades of chronic deer overpopulation. On cliffs inaccessible to deer, we find some

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Ask A Professional

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

Firewood from Private Woodlots

Question: I saw a webinar on how to thin your woods, and I realized I could generate a lot of firewood. Before I go down that path, what's involved? (Doug, WFL)

Answer: Producing firewood from your woodlot has multiple benefits. The obvious benefit is that you have a ready source of firewood to heat your home, garage, syrup evaporator, or workshop. If you're directly involved in selecting the trees to be cut, you will learn about the ecological relationships of trees and how species respond to an increase in sunlight. Heating with firewood, even in the simplest configuration requires work. You will benefit from increased exercise. Finally, you might be able to develop a community effort that allows you to build friendships with others of diverse talents, and all mutually benefit from the acquaintance.

You have some control about how involved and invested you will become. To produce firewood there are many tools and types of equipment involved, but you can produce some firewood at a small-scale with minimal investment. You can invest and be fully in control, or you can work with others who each bring a skill or a tool to the mix.

At the lowest level of involvement, you could coordinate with neighbors who work in your woods (as described below) and provide you a quantity of firewood in exchange for their acquisition of firewood. This arrangement could work well for some people. It assumes you have thorough trust in the knowledge and capability of your neighbors.

Planning for firewood isn't difficult but some of the details are important. The subheadings below will give an idea of the types of things to think about before you get started. One detail to emphasize is the significant value in stock-piling wood so you can season (e.g., store under cover) for at least 12 to 18 months before the winter season. Some species can have water weight nearly equal to wood weight when the tree is cut. Heat efficiency is dramatically improved when water weight is less than 20% of the weight of wood, and correct storage may achieve a moisture content of 12 to 15%.

Most of the activities of firewood production and collection can be both strenuous and dangerous. Safety concerns will be discussed at each phase of production, but general principles include:

1. Be where you are (don't get distracted by anything).
2. Learn to use tools correctly and then actually use them correctly and safely. A recent

Firewood Volume and Weight by DBH

DBH (inches)	Average Cords per Tree	# Trees Per Cord	Estimated Weight of Freshly Cut Tree to 4" top (lbs)
6	0.03	33.3	132
8	0.08	12.5	351
10	0.15	6.7	658
12	0.23	4.3	1008
14	0.33	3	1447
16	0.45	2.2	1973
18	0.58	1.7	2543
20	0.73	1.4	3200
22	1	1	4384

cord = 8' x 4' x 4' = 128 cu ft.

Figure 1. Woodland owners can measure and tally tree diameters of firewood trees to ensure they have enough firewood to meet their needs. The weights will avoid the complications of overloading tractors or ATVs. Developed from USDA For. Serv. NED-3. Se also http://www.forestryforum.com/calcs/log_weight.htm

Figure 2. Game of Logging is an educational program developed for loggers and adapted for woodland owners. Small groups learn by experience from a certified instructor to fell a tree safely.

comic portrayed the following statement on a piece of industrial equipment that is appropriate: "*Not only will this kill you, it will hurt the whole time you are dying*."

3. You're not as young as the last time you cut firewood. You might want to invest in core strength, grip strength, and flexibility exercises to avoid strains and/or tendonitis.

Tree selection

As a woodlot owner, trees are one of your assets. Existing ForestConnect fact sheets have described how forests grow into former agricultural fields or after previous harvests (if protected from deer). Trees are sufficiently crowded that all suffer from competition for sunlight. That competition reduces their vigor and resilience. Thinning your woods by cutting lower value or lower quality trees provides more sunlight for the remaining higher quality trees.

A technique that woodland owners can use to select trees for release from competition is called Crop Tree Management or Best Tree Management. In this case, the Crop Tree (or Best Tree) is retained for future decades to accumulate value and vigor for seed production or maybe lumber. The adjoining trees whose crowns shade the Crop Trees are cut and provide you with firewood. An internet search will provide guidance on how to apply Crop Tree Management. One advantage is the option to start small, by releasing 3 to 10 Crop Trees and gathering the cut trees for firewood. Many owners can learn this process, or the owner can ask their forester to mark some Crop and adjoining cull trees.

Incorrect tree selection can be problematic. First, the biggest and straightest trees might be the easiest to split, but you might be removing trees that have a higher and better value for wildlife mast or timber. Second, pick trees that are accessible with the equipment you will use in the season you will cut and gather. Third, use the diameter and volume chart (Figure 1) to select enough trees to provide wood for the full season.

This may be the only aspect of firewood production that doesn't carry serious safety risks, at least beyond normal woodland activities. Be alert for ticks, unstable footing, and heat exhaustion.

Acquisition

The classic image of a woodlot owner producing firewood involves a tractor or truck moving logs or blocks of wood from the woods to the home. This continues to be common.

If the owner is moving the logs, there is a good chance the owner or an acquaintance felled or cut down the tree. Tree felling is a rewarding experience when done correctly. Some people consider shopping "retail therapy", and others consider tree felling as "stump therapy." Done incorrectly, the outcome can be tragic. Anyone using a chainsaw of any type, gasoline or battery, should participate in the Game of Logging training (Figure 2). In recent years, the Game of Logging for landowners has been coordinated in NY by the NY Center for Agricultural Medicine and Health at the Bassett Healthcare Network. Classes for the summer are currently being scheduled, and fill quickly. Send an email to *chainsawsafety@bassett.org* to learn about dates and locations.

The easiest way to reduce your investment in time or equipment is to acquire logs that were cut and skid by someone else. Another method to acquire firewood logs is to work with a logger. If you're having a harvest, or perhaps your neighbor is, talk to the logger about leaving some logs near the landing where you can access them. Don't plan to work on the log pile while the logging is active. Depending on the contract and the owner of the land, you have various options to pay for or deduct the value of the logs and the skidding. This arrangement is often only viable for a couple years of logs at most, but by then you'll know the logger and can buy firewood delivered to your property by the truckload.

In some cases your neighbor may offer to cut and move logs for you. Be wary! Loggers have the appropriate equipment and skill to do this task safely and with no or minimal damage to your residual trees and the land. Your neighbor may not be as skilled or equipped.

Safety concerns with acquisition relate to the felling of trees and the use of non-logging equipment to move logs. Injuries from felling trees include severe lacerations, blunt force trauma and traumatic brain injury. Personal protective equipment (PPE) reduces the likelihood and severity of injury; PPE doesn't make you invincible. Most tractors are somewhat vulnerable to tipping, so use your roll-over protection system (ROPS) and your seatbelt. Finally, if you're positioning logs, it is most efficient to use a peavey.

Blocking

Blocking is the process of cutting the firewood log into lengths of the correct size to fit in your wood stove. If you aren't sure of the maximum capacity of your wood stove, measure it. Measure twice and cut once applies to firewood as well as carpentry.

One strategy for blocking is to aggregate logs near where you will stack the wood.

continued on next page

Figure 3. PTO driven winches attached to a farm tractor allow logs to be pulled to the tractor. The tractor then drags them to where they can be processed. Except on snow or ice, the logs usually accumulate dirt and debris in the bark which will dull your chainsaw.

Move the logs, cut the logs into blocks, split them, and stack the firewood sticks. This is the most efficient use of time because you've minimized handling. However, this requires that you have equipment that can transport logs. Another result of moving the logs is that most equipment available to woodland owners would drag the logs (Figure 3). In some seasons, this results in firewood logs covered in dirt or mud which will quickly dull your chainsaw.

A second strategy is to block, and maybe split, the firewood logs in the woods where the tree was felled. This allows for a lower need for robust equipment and the chance for you to think creatively about how to move that wood (Figure 4). Because blocks or sticks would typically be carried in a wagon or tractor bucket, the pieces are unlikely to accumulate dirt or mud.

Figure 4. Necessity is the mother of invention. If you block your firewood logs in the woods, you can use small equipment to transport the blocks to the woodshed for processing. This is more handling and requires extra attention to safety to avoid overloading or tipping small machines. Some woods roads would allow for truck access.

Blocking wood involves a saw (most commonly a chainsaw) to cut the log into appropriate lengths. A kick-back can happen when the top front corner of the chainsaw bar bumps a log near where you're cutting. Pay attention to avoid this circumstance. Also, hold the chainsaw with two hands and thumbs wrapped with a functional inertia brake on the chainsaw. Another concern is that the weight of the blocks is often sufficient to strain your back. Use tools to your advantage, lift with your legs, and split blocks that are too heavy to lift.

Splitting

Splitting can be completed by hand or by machine. Some people use heavy axes, with a head weight of about 4 lbs. Splitting mauls are usually 6 to 8, sometimes 10 lbs. New axes or mauls will cost $30 to $60, or less at a flea market. Fiberglass handles aren't traditional, but they are less likely to break. The fiberglass is often colored such that it is easier to find in the woods than a wooden handle. Until the person splitting wood learns to swing with accuracy, plan to replace wooden handles as they split or splinter. Learn to read the checks in the ends of the blocks to make your efforts with axe or maul more efficient.

There are a wide range of mechanized splitters. The box stores sell them for between $1000 and $1500 or so, depending on speed of the ram, capacity of hydraulic fluid, and attachments for ease of use. High-end splitters can be twice that price. Power splitters can be vertical, horizontal, or both. Vertical splitters allow you to roll a block into position without lifting that might strain your back. Horizontal allow you to work with less time bent over. You can find used power splitters at garage sales, and several people have built their own. There are an assortment of cobbed implements that you should avoid. If it looks dangerous, it probably is.

The physics of splitting wood is that of great force, whether by manual or mechanical means. The splitting action won't differentiate between your thumb or shin and a stick of wood. Develop personal protective behaviors (PPB) to avoid injury. Wear hearing protection and safety glasses with mechanical splitters and safety glasses when splitting by hand.

Figure 5. This woodshed is approximately 8 ft x 12 ft. The diagonal slats provide stability for the woodshed and a brace for each stack of wood that was stacked side to side. The metal roof had a 2 ft overhand allowing for storage of some tools on the outside wall.

Storage

Wood storage can be a thing of beauty. However, what is most important is to keep the firewood stacked out of the rain and snow and with air flow to accelerate drying. If possible load the wood storage area such that the first wood stacked is the first stack used. While it is possible to store wood on pallets under tarps, and many people do that successfully, that method takes considerable effort and persistence. A better solution is to build a woodshed with sides that allow for bracing of the ends of stacks, lattice or porous siding and a roof with ample overhang (Figure 5). Size the woodshed to hold slightly more wood than one or two years supply.

Take your time stacking. Poorly stacked wood will slump and shift potentially resulting in multiple stacks collapsing. Tall stacks are more likely to tip than stacks at 4 to 6 ft high. Benjamin Franklin is reported as recommending that firewood should be stacked loose enough for a mouse but too tight for a cat. If you cut your blocks to equal lengths, piles of stacked wood will be more tidy, organized, space-efficient and stable.

Moving wood from your woodshed to the house is a regular task during the heating season. If possible, locate the woodshed to be close to an entrance near the woodstove or indoor wood storage. The daily or weekly task of moving firewood to the house will be during the winter with the possibility of snow or ice outside. Keep paths clear, use salt as needed, and wear appropriate boots. Invest in a convenient carry system, such as a firewood apron, to evenly distribute the load across your shoulders rather than onto your back.

Indoor storage, unless planned with the design of the house, will require that you make do with the available space. Ideally you will have indoor storage near your stove for a full one to three days of burn time. A variety of indoor storage unit designs exist, and online resources such as Pinterest will give you ideas for your home.

Stove management

Managing your stove is outside the scope of woodland management for firewood. Books have been written on that topic. There are a few points where there is overlap. First, the process of splitting will result in an abundance of kindling. Keep those piles separate and develop a system to allow the splits to dry. Second, your woodshed is not a good place to locate your ash bucket. There are often hot embers in the ash pan. Keep the ash bucket in an area with fireproof walls or at significant distance from anything combustible. Finally, even dry wood may result in the accumulation of creosote in your flue. Inspect your flue annually and clean as needed.

If you are considering producing firewood, and this is one of the most common activities of woodlot owners, you have lots of options. Some of your neighbors will heat with wood, and in exchange for 30 minutes of helping them stack some wood they will gladly show you their system.

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Wild Things in Your Woodlands

By Jessica Park

Red Fox (*Vulpes vulpes*)

The red fox is a rusty-colored, omnivorous, relatively social species with a characteristically bushy tail and triangular ears. Red foxes typically have darker fur on their paws and lighter fur on their undersides. There are also varying morphs of the red fox, including the "silver" melanistic morph that is characterized by dark fur with white guard hairs. Kits are usually born with gray or dark brown fur that begins to change as they start to leave the den. Adults can weigh anywhere between around 5 pounds and 30 pounds with females generally weighing less. In addition to their charismatic looks, they can also be recognized by a variety of interesting calls which include sharp barks, squeals, and even high-pitched screams that may sound uncannily human.

The largest of the true foxes, red foxes are a handsome canid that are native throughout much of the Northern Hemisphere in North America, Europe, Asia, and North Africa, and have been introduced to Australia. They are widespread in the continental United States (aside from the southwest), including all parts of New York State. In fact, red foxes boast the second widest distribution of any land mammal—losing out only to us humans.

The oldest red fox fossils, found in Hungary, date back to 3.4 million years ago and the species seems to have been associated with human settlements for just as long. Perhaps because of this long-term and wide-ranging coexistence, humans and red foxes have a storied history together, with many cultures across the world featuring red foxes in their mythology or folktales. Notorious reputations like that of their proverbial habit with henhouses (and other livestock) historically led to direct persecution of foxes by humans.

Today, though issues still arise, humans tend to have a fonder outlook on foxes. Rural areas with mixed landscapes and dense plant growth are their preferred habitat, but their adaptability often sees them thriving far from ideal conditions which may even include cities and suburbs. This may be partially due to their omnivorous diet, which allows them to utilize a wide variety of food sources including rodents, birds, eggs, rabbits, berries, fruit, and even garbage in more urban areas. They have been known to eat over 300 animal species and several dozen plants. Seasonal availability of food can vary their diet greatly with some fox populations relying on fruit for nearly 100% of their intake in the fall.

Although red foxes are solitary foragers, they usually cohabitate in family groups that share a territory. Red foxes will mark their territories with urine. For the usually monogamous fox pairs, mating season occurs in the winter with 1-10 kits being born roughly 8 weeks later in an underground den. Red foxes favor well-drained soils for their dens and may dig them on hills, slopes, bluffs, riverbanks, ditches, and ravines. Commonly, however, the expecting pair will simply take over and enlarge a burrow that has been abandoned by another animal to prepare for the birth of their young. Sometimes, they even share burrows with groundhogs! Once they are about five weeks old, the kits will begin to leave the den, but remain dependent on their parents' care until they are young adults in the fall. Under favorable conditions, subordinate foxes may return to help with the rearing of kits that have been born to the territory's dominant pair. These subordinates are usually the previous year's young that have remained close to their parents.

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That said, March through April is the season for kits to explore outside their dens, which comes with many triumphs, trials, and tribulations-both for the foxes and for landowners that share territory with them. My own home in suburban Westchester has hosted a returning pair of foxes under our shed over the past few years, and watching their kits explore, play, eat, and grow up is something my family, friends, and neighbors look forward to in the spring. However, it is also during this time of year that most complaints about red foxes are issued due to increased garden-disturbing, garbage bin-tampering, and chicken-stealing activities. Keeping garbage bins lashed shut (we use a bungee cord system), maintaining secure coops and hutches for livestock, or using electric exclusion fences are some of the ways that wildlife damage can be reduced. With the right care, learning to respectfully coexist with these charismatic wild animals that we have such a colorful history with can be very exciting!

Most of the ways in which landowners can support red fox populations are simply good practices for native ecosystem conservation in general. Continuing to support the growth of native plant species (especially shrubby growth for shelter), leaving parts of the land undisturbed, and maintaining a respectful distance from wildlife when they are spotted are a few examples. Foxes have been known to den under patios, sheds, and woodpiles, so leaving brush piles and downed wood on the land can also attract red fox residents. If your wooded area with good denning sites remains healthy, don't be surprised to see the little ones wrestling outside a burrow as this spring picks up in full!

Jessica Park is a Program Assistant for the New York State Master Naturalist Program, directed by Kristi Sullivan at Cornell University's Department of Natural Resources and the Environment.

More information on managing habitat for wildlife, and the NY Master Naturalist Volunteer Program, can be found at https://blogs.cornell.edu/nymasternaturalist/

Would you like to see an article about a particular topic we haven't covered?

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

Understanding and Managing Soil Erosion

By Charlie Greene

Erosion is the process during which soil, rock, and sediment are worn away as a result of their detachment and transport by moving water, wind, ice, gravity, and human activity.

When soil erodes, things that used to be unseen beneath the soil come into view. Shifts in the shape of the soil, where rounded areas have been flattened and vice versa, may be the soil eroding. Exposed tree roots are a sign of extreme erosion. When water in your stream looks unusually muddy, soil is literally being washed away.

All soils are composed of varying amounts of organic matter, sand, silt, and clay particles. A soil's composition and texture affect its water-infiltration and water-storage capacities, and its vulnerability to erosion. The most erodible soils contain high proportions of silt and fine sand. Clay sticks soil particles together. Organic matter maintains soil aggregation.

Soil erosion degrades water quality.

When compared with vegetated soils, unvegetated soils contain less organic matter, are less absorbent, and often more compacted. As a result, an unvegetated soil's quantity and quality of water runoff, soil nutrient loss, and erosion are significantly higher. Vegetated soil allows more water to infiltrate and retains more moisture, enabling it to more effectively absorb precipitation. Erosion increases rapidly when vegetation, intact duff, or the organic outer layer of soil are removed.

Erosion rates vary significantly depending on a site's slope length and steepness, a soil's inherent erodibility, prior soil compaction, the extent and condition of vegetation, and soil moisture. Long slopes produce more ground-surface water flow, also known as runoff, and steep slopes increase runoff velocity.

Soil erosion decreases the biodiversity and productivity of forests, negatively impacts an adjacent community's resiliency (the ability of a community to "bounce-back" from damage caused by extreme weather events), and alters ecosystems by reducing biodiversity above, within, and below the topsoil.

Climate is also a major driver of erosion. An increase of rainfall frequency, intensity, and duration increases the amount of runoff. Alteration of water levels can displace soil. Extreme fluctuations in temperature make topsoil less stable, and prolonged droughts can prevent plants from growing, leaving soil exposed.

Frozen soils, winter snowmelts, rain on snow events, and summer thunderstorms increase the potential for erosion.

When rain lands on the earth's surface, this water has many paths it can take, all of which occur due to gravity and the dynamics occurring when this water flows downhill. These pathways include being intercepted by vegetation, absorbed into the soil, retained by the soil for plants to use later, infiltration into the soil to recharge shallow groundwater, or running off the soil as surface flow.

Soil erosion becomes a water quality stressor when the transported soil materials reach adjacent surface waters. When this occurs, the sediment itself is a pollutant. During the precipitation-driven erosion process, soil and rocks are dislodged from the ground surface by the impact of rain, or carried by the flow of runoff water across the ground surface. The pollutant load associated with land erosion is dependent on the amount of nutrients and pollutants that exist on and within the eroding soil.

The extent to which eroded material is delivered to a receiving water depends on proximity, and the existence of constructed conveyances such as swales, channels, ditches, pipes, or culverts. Barriers to runoff-based erosion, such as vegetated stream buffers, grass-lined waterways, and stone-lined roadside ditches can significantly reduce or even preclude the impacts of land erosion.

During the growing season, vegetated soils and adjacent surface waters are cooler than unvegetated soils and their adjacent surface waters. Cool water temperatures favor stream-side vegetation and decrease heat-trapping soil particles in waterways. Other cool water temperature benefits include a return to natural sediment transport, a more stable stream geometry, an increase in water quality, and a decrease in the likelihood of stream channels getting wider and shallower and thus warming more easily.

Desertification, which is the process of fertile land becoming a desert, is usually caused by combination of deforestation, drought and extreme erosion.

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The most effective solutions to erosion begin with natural resource planning. An assessment of the suitability of a site for a proposed human use is necessary to prevent activity-caused soil erosion. The best way to protect soil is to preserve existing vegetation. Minimize the duration of soil-disturbing activity. Stabilize the soil as soon as possible after work is completed.

Determine the limits of a work area. Walk the work area thoroughly before completion of the natural resource planning, and walk the work area again before any work begins. Delineate in the field the temporary and permanent roadways that will be constructed. Verify that the proposed work can proceed without causing soil erosion, or determine when and which erosion controls will be in place.

Minimize changes of the ground surface by working with, rather than against, the existing topography. Work parallel to ground elevation contours wherever possible. Delineate and avoid disturbance within 100 feet of wetlands, streams, springs, and steep slopes, and adjacent to seeps, vernal pools, unstable slopes, and previously eroded land. Do not cause the removal of topsoil within 200 feet of wetlands, streams, springs, wells, and steep slopes. Do not engage in activities that are likely to disturb mud. Wet soil is weak soil. Working on or with wet soil can cause permanent harm in a soil's health. Protect existing vegetation that will remain after work is completed. Clearcuts increase the potential for soil erosion.

Determine how runoff will flow away from a work area. Natural drainages should not be altered or moved.

According to the Blue Book (see References), diversion of surface water away from exposed soils provides the least costly and most effective erosion control possible because it is more advantageous to control erosion at its source than to construct controls to trap sediment.

Before work begins, design an erosion control plan. If the work site is large, has complicated topography, or is adjacent to perennial surface water, it is advisable to retain a professional to design the plan.

Use work-site materials, such as heavy-duty ropes, chains, and brush, to divert or slow the movement of water. Road salt can melt ice in soil, allowing for the installation of water bars. Straw bales can be used to divert water off trails and work roads. Stockpile brush for soft spots that develop during thaws or downpours.

Bridge construction and culvert installation should be done during summer when stream flow is low. If road or other construction is necessary, it should be done well ahead of time to permit disturbed soil to stabilize before the road or work site is used.

At all locations where project activities are likely to increase the potential for erosion, develop a strategy to control the erosion. When retiring the active use of a woodland road, you may decide that diverting water away from the road and decreasing the length of steep road sections are reasonable methods to decrease erosion potential. Determine how the erosion control practice will be implemented. Design your proposed erosion control practice on paper before commencing its construction.

If upslope water is to be diverted away from the road it must be done with techniques that prevent erosion along the length of the diversion and at the diversion's outlet. Always begin construction of diversion and drainage work at the outlet-end. Before starting project work, the diversion and newly constructed drainage outlet must be stabilized with vegetation, timber, and/or stone. The new conveyance must be able to manage the water flow without itself increasing the potential for erosion.

Water bars are a commonly used erosion control practice to reduce a road's uninterrupted slope. The steeper the road, the shorter the distance apart must the water bars be constructed. The entire length of the water bar, and its outlet, must be stable and not create new potential for erosion.

Wherever possible decrease the potential for erosion at a worksite.

References:

1. *NYS BMP Guide App* is the online version of the New York State Voluntary Forestry Best Management Practices for Water Quality BMP Field Guide. This guide is a practical tool for loggers, foresters, woodlot owners, and others involved in timber harvest operations and field work concerning erosion and water quality. The developer (Watershed Agricultural Council of the New York City Watersheds) does not collect any data from this app. Available for Apple and Android devices.
2. *New York State Standards and Specifications for Erosion and Sediment Control* (the "Blue Book"). The November 2016 version is the most recent. This is available for download at https://www.dec.ny.gov/environmental-protection/water/water-quality/stormwater/construction-stormwater-toolbox#Blue_Book

Charlie Greene, P.E. (Professional Engineer), has been a self-employed horse logger, a NYSDOT bridge construction engineer in charge, and currently designs and implements construction and industrial Stormwater Pollution Prevention Plans (SWPPPs). He graduated from SUNY-ESF and Cornell.

From the Executive Director (continued)

can learn from each other, share ideas, communicate better, and collaborate more.

- We continue to produce a great publication in the *Forest Owner* magazine, and constantly look at ways to improve it with fresh, interesting content.
- We are working to expand our relationships with other kindred organizations for programs and membership.
- We are exploring grant funding opportunities in support of our programs.
- As the grassroots of the forest product supply chain, we are seeking sponsoring partnerships with our friends in the wood using industry to support our mission.
- We are collaborating on a grant with the NYS DEC and Cornell University that would provide funding for NYFOA to help landowners apply for cost sharing through the Regenerate NY Program.
- We participated in Forestry Awareness Day. A day of legislator meetings arranged by our friends at the Empire Forest Products Association to educate on forestry issues and communicate support or concern about pending legislation. An opportunity for NYFOA to be your voice in Albany.
- We directly engaged in advocacy efforts on various pieces of legislation in NY. We specifically:

➢ Commented on the proposed revisions to the RPTL 480a Regulations, and separately supported a bill that would decrease the minimum acreage requirement from 50 to 25.

➢ Responded to the Climate Action Council (CAC) NY Climate Leadership and Community Protection Act (CLCPA) Scoping Plan about the importance of private working forests, expressing concerns or support for actions impacting forest owners.

➢ Provided financial support for a wood burning emissions analysis conducted by SUNY ESF to provide facts to the CAC in opposition of a potential wood burning ban.

➢ Opposed wood burning ban legislation that was proposed independently of the CLCPA Scoping Plan.

➢ Supported the national Jobs in the Woods Act, that would fund training programs for forest product industry workers.

➢ Urged the Governor to veto the Enhanced Stream Classification Bill that would unnecessarily expand stream protection to thousands of miles of small intermittent streams hindering forest management.

➢ Supported the national Rural Forest Markets Act, which would incentivize and enable family forest owners to participate in carbon markets.

➢ Supported the NYS Climate Smart Working Lands partnership between public and private land for a USDA program to promote and market climate smart forestry and farm commodities.

➢ Supported the national Invasive Species Prevention and Forest Restoration Act that would provide management funding.

➢ Supported the national Northern Border Regional Commission Reauthorization Act which provides support for infrastructure in communities in northern NY including forest management and forest recreation.

➢ Supported the NYS DEC deer management plan to include a crossbow hunting season.

➢ Opposed the change of national tax legislation that would eliminate the stepped-up basis at death on the appreciation of land assets.

There are lots of little things always in process, but I think that covers the bigger things we've done or are doing to build NYFOA's membership value and represent your interest as forest owners. Hopefully, you agree.

I will end on a related note... I offer this as perspective, not as reproach, so please read on with the former in mind. The relationship between the chapters and the state level of NYFOA is not "us and them." As expressed in the question inspiring my column, there is no "they" there is only "us." I often use the term "we," but it is not meant to further an "us and them" divide; it only refers to the leadership or committees — the leadership is the membership. In this, the chapters and the state are one; one membership with one shared mission. The chapters and its leadership are the grassroots fulfilling the mission through networking and programs that are accessible to all. The board of directors and committees at the state level are just regular members, that with staff assistance, fulfill the mission by sharing vision, making plans and decisions, supporting the chapters and members, and representing everyone externally; to better the organization for all. The mission of your NYFOA is simply to promote sustainable forest management and stewardship. It is up to all of us to work together to fulfill that mission. Whether that is by volunteering, or attending events, or providing additional financial support, or being a good example, or helping others.

We are, however, more than just our mission. We come together for fellowship and personal growth as forest owners, with shared passion that makes us excited to be members of this great organization, to be part of a family — and hopefully that is what motivates us to fulfill the mission, even if only by accident along the way. There is no "they." There is only "us."

Now I remember: "Ask not what your country can do for you, but what you can do for your country."

Until next time — go to the woods — take it all in and love it until you can't.

–Craig Vollmer
NYFOA Executive Director

"If you look at your forest and all you see are trees, you are missing much! That was us. This conference opened up a lot of information. Now we can choose directions to go with our forest."

-2023 WNY Regional Conference Attendee

Mark your calendars!

The NYFOA Regional Conferences Return for 2024!

NYFOA is excited to bring to you again four regional conferences to be held across the state this year that will be accessible to all members (and non-members – tell a friend). If you prefer to stay close to home, one will be held nearby, or you may live where you can choose from more than one; but if you're looking for a reason to get away or can't make the one nearest you, you can choose from any of the other conferences to attend instead.

What:

- Forestry 101 - Frequently Asked Questions
- Agro-Forestry
- Real Property Tax Law
- Ruffed Grouse Habitat Management/ NRCS Cost Share Programs
- Forest Resiliency Score Card Field Demonstration

Where & When

Adirondack Region – May 11th
Tupper Lake High School - Tupper Lake, NY

Hudson Valley Region – June 15th
Columbia-Greene Community College - Hudson, NY

Central New York Region – September 7th
LaFayette High School – LaFayette, NY

Western New York Region – October 19th
Pioneer High School – Yorkshire, NY

Watch for future notifications and registration information, or monitor the NYFOA website: ***www.nyfoa.org/events***
We hope to see you there.

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

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

Woodland Health

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

Coordinated by Mark Whitmore

Burying Beetles: Nature's Unsung Undertakers

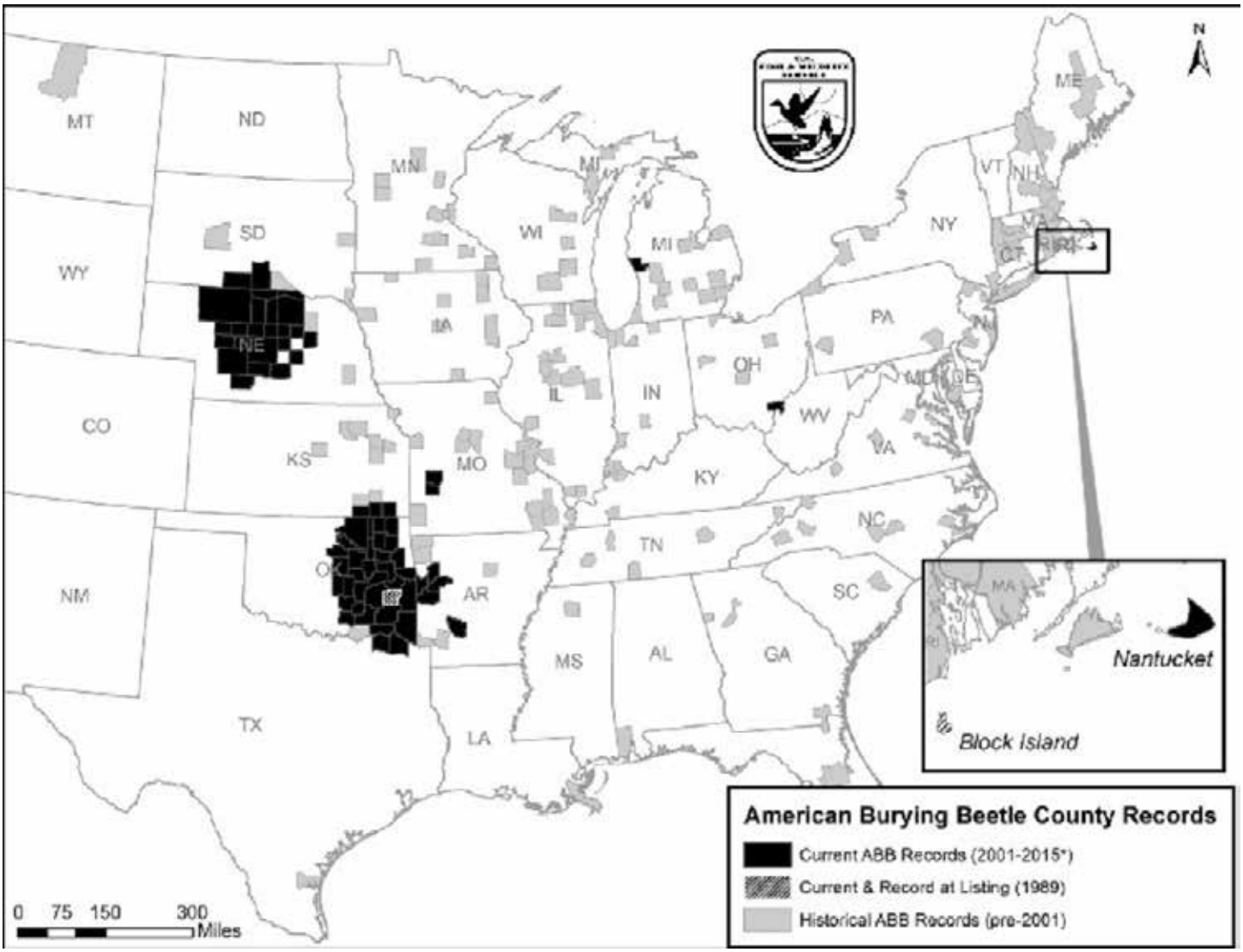
By Sabrina Mittelstadt

Forests are teeming with life. The cycles of life and death are all around you, and yet as you stroll through a forest you rarely come across consequences of death, such as carrion and carcasses that play an invaluable role in the ecosystem. Do you ever wonder why not?

Burying beetles or sexton beetles (there are 6 common species in New York, all of which are easily identified by their charismatic red and black color patterns), are named for the sexton of the church whose duty it is to look after the graveyard. They conduct their entire mating displays under the cover of night, needing one key ingredient – a fresh carcass. While the rest of the world sleeps, the smallest cleaning crew perform the role of undertaker, burying any carcass they can carry below the soil surface. These ingenious beetles convert what would otherwise be left to rot into new life that helps cycle nutrients back into the ecosystem. Unfortunately, these beetles may be most well-known for one of them being one of the few insects on an international list of endangered species; however, without these valuable beetles alive and well in our forests, we not only disrupt the living, but we put in danger the cycle of death itself.

These tiny tidy-ers keep our forest floors clear of carrion weighing between 4–10 oz; too large and they can't bury it, too small and it won't be enough food to sustain their young. A male beetle can smell a carcass up to 2 miles away and once he arrives it marks the beginning of a complex mating ritual. To start,

American burying beetles. Photo © Darlyne Murawski courtesy of Roger Williams Park Zoo.



American Burying Beetle distribution, courtesy of USFWS.

a male beetle will emit pheromones to let nearby females know he has found a carcass and is ready to mate. This ritual is a dangerous mix of risk/reward as both males and females will respond to this "call," either to attempt to win the carcass from the male or to mate. When one mating couple remains, usually the largest two, they move and bury the carcass together to prevent it from attracting unwanted attention from scavengers. Once buried, the pair pick it clean from fur or feathers, and turn it into a "meat" ball to create a brood chamber for their young. They coat this "ball" in oral and anal secretions that have antibacterial properties to slow down decay and stave off soil mold and bacteria. This cooperative behavior is an essential aspect of their survival strategy, as it ensures a secluded and protected environment for their eggs to hatch and larvae to develop.

What truly sets the burying beetle apart is their unusual involvement in parental care. Following copulation, parents guard their young and regurgitate food until the offspring can feed themselves. What is especially unique is both male and female parents perform these tasks, where in most relationships the female alone oversees child rearing. Females lay anywhere from 15–30 eggs, this number varying between species, which begin to hatch into larvae after 4–5 days. Some species of burying beetle larvae are unable to feed directly from the carcass and will starve if not fed by their parents. This dependency is because they require their parents' oral fluids to survive. As the parents monitor and feed their young, they will preferentially feed the healthiest looking offspring, even consuming young when resources are limited to ensure the success of their strongest offspring. This high level of parental care is unusual for beetles and insects in general, making them a great candidate for studies on animal behavior, sociobiology, and coevolution.

Due to their burying behavior, these beetles play a crucial role in nutrient cycling in forests. Dead bodies contain a trove of nutrients - just waiting to enrich the soil. Without these beetles, carrion would rot unburied and lead to increases in fly and ant populations, which can get to pest proportions. When beetles bury carcasses, they also slowly break them down to simpler more absorbable components, returning nitrogen, phosphorus, potassium,

continued on next page

sulfur, magnesium, and sodium to the soil, making these nutrients available to nearby plants and trees. Because of this important ecosystem service, burying beetles are often seen as an indicator species for the health of their environment. One should feel supremely lucky to find them in their local environment, enhancing our ecosystems one corpse at a time.

While most burying beetle species thrive in their ecosystems, the American Burying Beetle (*Nicrophorus americanus;* ABB), suffered a devastating decrease in numbers, and were listed in 1989 as endangered. ABB is the largest member of the genus at around 1.5 in and once thrived across much of the eastern and central United States. As early as the 1920s, ABB was common across the northeast and North America, residing in 35 states and three Canadian provinces, but by 2002, their numbers had dropped to less than 10% of their historic range (see map). In 1983, 6 years before their official listing, scientists noted that this decline "must represent one of the most disastrous declines of an insect's range ever to be recorded." ABB was only the 20th listed insect on the red list and the 6th beetle species. It has since been downlisted to threatened in October of 2020 thanks to the success of breeding and reintroduction programs in the Midwest.

The reason for the decline of ABB is widely debated, however there are many factors that together may have contributed to their decline. Researchers have identified six of the most popular hypotheses for their decline including DDT/pesticide use, artificial nighttime lighting, pathogens, habitat loss, vegetation changes, vertebrate competition, loss of ideal-sized carrion (e.g. the now extinct passenger pigeon), and competition. These factors still impact numbers today, resulting in the only extant natural population east of the Mississippi River being found on Block Island (a small island 9 mi south of the Rhode Island coastline). Since the turn of the century, an emphasis has been put on restoration of this species, resulting in a recovery plan, with an emphasis on captive breeding and building numbers for reintroduction. In recent years, reintroduction efforts have turned their focus towards sites within New York State as a part of ABB's historic range extends into the northeast – so stay tuned as this large and fascinating beetle may be coming to a forest near you.

Every species, no matter how small plays a vital role to the success of our ecosystems. The contributions of the burying beetle, while not widely known by anyone aside from the few who know of this unique insect, exemplify the fascinating and intricate cycles within the natural world. The plight of the American burying beetle serves as a reminder of the delicate balance between humans and the well-being of our fellow inhabitants on this planet. We have much to be grateful for, especially for these processes which we rarely observe, but nonetheless are important to our ecosystems and our own way of life.

As stewards of the planet, we should strive to actively participate in conservation efforts, even if our involvement only manifests as talking more about these remarkable creatures and spreading awareness of their plight. By supporting initiatives to protect these beetles we also pave the way for supporting countless other species facing similar challenges.

Sabrina Mittelstadt is a Masters student in Conservation Biology at SUNY-ESF.
Mark Whitmore is a forest entomologist in the Cornell University Department of Natural Resources and the chair of the NY Forest Health Advisory Council.

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
Roger Penhollow	AFC	May Boggess	SFL
George Blatt	AFC	Garet Livermore	SOT
Shane Stevens	CDC	Tom Edwards	SOT
Randall Kelly	CDC	Ben Kutney	SOT
Ann Skowron	CNY	Rick Marsi	SOT
Jeremy Bloom	LHC	Richard McHale	WFL
Benjamin Trubits	LHC	Stephen Lewis	WFL
Joe Magardino	LHC	Jefferson Svengsouk	WFL
Dan Carusone	SAC	Michael Pollack	WFL
Anna Bartel	SFL	Josh and Tori Clarke	WFL
Ben Boynton	SFL	Julie Doyle	WFL

Enhancing the Values of Family Forests in the Northeast

A Joint Gathering of the New York Forest Owners Association & Northern Woodlands

May 17–19, 2024
Southern Finger Lakes Region of New York

Presentations will take place at the following locations:

- Cornell University Arnot Teaching and Research Forest, Van Etten, NY
- Seneca Lodge, Watkins Glen, NY
- Angus Glen Farms, Watkins Glen, NY

For more information on registration fee, lodging and to register visit:
cceschuyler.org/events/2024/05/17/nyfoa-nw-conference

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ESF State University of New York College of Environmental Science and Forestry

remnant populations of sensitive forest understory species that were common as recently as the 1940s. These include bluestem and zigzag goldenrod, asters, false Solomon's seal, native honeysuckles, beaked hazelnut and a couple of trilliums.

Provide a summary timeline of your experience with the land since you bought it. What have been your major projects? What did you learn during those projects?

We moved full time to a part of the family-owned property in 2020, initially with the plan to raise "carbon negative," 100% grass-fed beef. At the time we believed sinking soil carbon by grazing open land was the most impactful action we could take around climate change. To that end, we immediately began "renovating" over 100 acres of fields that had become dotted with invasive shrubs and, to our untrained eye, dominated by undesirable goldenrod and other "weeds," species unpalatable to cows. We ripped out the shrubs and began planting non-native cool season pasture grasses and clovers, and started mowing the fields in July or August to suppress the "weeds" in favor of those same non-native grasses that are preferred by cows. We stayed on this path until 2021, when we were about to sign a contract to install high-tensile electric fence.

That summer, out of a serendipitous confluence of discussions and connections with researchers and ecologists focused on this landscape, we had a life-altering realization: the Hudson Valley does not need to convert more fallow fields to non-native pastures. It needs more intact, rich habitat, dominated by native plants, to support all the creatures that call the Hudson Valley home, not just livestock. We had been stuck on the idea of carbon sequestration as the most important goal of climate-smart land management, but we were missing the larger picture: carbon-negative or not, even the best-managed cattle grazing systems will undermine native plant populations. Meanwhile, deep-rooted native perennial plants themselves have an enormous carbon sequestration capacity. Perhaps even more important: protecting and promoting native biodiversity may be the most critical tool we have left for ensuring a climate-resilient future.

We learned that prior land use and decades of deer overpopulation have destroyed native biodiversity in the forest understory, forest edges, fallow fields, hedgerows and wetlands, and that the land use decisions made by our predecessors and ourselves had left us with the responsibility to restore what has been lost and to support what remains. We decided to abandon the idea of grass-fed beef entirely and pivot to managing the property for native biodiversity, which cannot be done without aggressively managing deer. I learned how to hunt in my early 30s and our freezer is now full, not with grass-fed beef but with venison: a meat that is truly carbon-negative and biodiversity-positive and we donate and give away venison to friends, neighbors, and local food banks every year.

Today, we no longer mow in late summer. Where we once sought to suppress goldenrod, we now know that it is a keystone native plant in the Northeast that supports close to 150 species of native caterpillars and bees. We mow in late winter using a mosaic pattern and offset timing, so that any given field is mowed only once every 2-3 years.

We also actively plant native shrub species like willows, dogwoods, and viburnums around ponds and streams — species that we unthinkingly ripped out seven years ago. We're beginning to plow under and replant the same fields we converted to non-native cool season grasses, this time planting native meadow seed mixes tailored to support threatened native pollinators. One such project included plowing a 3-acre field this past summer and drill seeding a native seed mix containing a large portion of local ecotype seed this past October.

We still build fences, but rather than fencing in cows in our fields, we build fences to exclude deer from portions of our woods. Within a 12 acre exclosure we built in March 2022, overstory trees and native understory plants are regenerating, a process currently impossible due to deer overpopulation. Tupelo, sassafras, and sugar maple stump sprouts are already 4 ft tall in places within the exclosure and this spring we will start planting out some sensitive species like trilliums and orchids that have been locally extirpated.

While we still manage some select invasive species, we recognize that removing invasive plants is not enough. Unless we engage in both active restoration planting and aggressive deer management, native species cannot fill the gaps left after invasives are removed.

We've come to realize that enhancing soil carbon through grazing was far from the highest and best use of the land we have the privilege to steward. Instead, creating opportunities for native plants to return to and thrive on our landscapes both through deer management and active restoration are the most critical and least-addressed land stewardship actions in the Hudson Valley. In the face of climate change, and in the midst of a sixth mass extinction and unprecedented biodiversity loss, actively restoring native biodiversity on the land we steward is now our primary mission.

How has the land changed since you bought it?

Since we started taking a more active management role and shifted our management actions away from managing for cattle to managing for native biodiversity, we have noticed a few changes. In the open meadow areas little bluestem, asters, and goldenrods are beginning to establish, and within our 12 acre deer exclosure a few tree species are beginning to recruit. We are still in the early days of managing for biodiversity so the changes are subtle. We continue to find new and interesting plants in areas that deer seemingly do not frequent (like the middle of wet meadows with tall standing vegetation). For example, last summer we found 6-7 Canada lily in a wet meadow. These are a species that were historically common in our area but due to our obsession with brushhogging "overgrown" areas to keep things tidy (and decades of deer overpopulation) they are virtually gone. We notice that species that are deer candy, like several aster species and Canada lily, are able to avoid some browsing when they are hidden from deer in tall, hard to access vegetated areas, like areas that we haven't brushhogged for a year or two. Even though we have aggressively hunted deer during the last three hunting seasons, we are not seeing any effect on browsing rates. We are noticing that we are seeing fewer deer during the day but I think it is just a temporal effect— the deer are showing up on trail cams at night when they feel safe.

What is your biggest challenge when it comes to managing the property and the woods?

By far the biggest challenge is appropriately managing deer, and unfortunately the DEC does not provide landowners the necessary tools to do so. The science is clear that recreational hunting has very limited impact on reducing deer populations and we find the same result. We also have received Deer Management Assistance Program (DMAPs) but the DEC only provides one DMAP tag per 50 acres of forest; nowhere near enough tags to actually make a difference. We also help train ecologically minded folks to hunt and provide access for hunters to harvest deer, but these folks only end up getting a few deer which has no effect on reducing browse rates.

In DEC region 4, a landowner can only get a nuisance permit if they can show agricultural losses. Your forests can have no regeneration and you simply can't get a nuisance permit. This should change. Providing concerned and active landowners/managers with the tools to appropriately manage deer would go a long way but it will not result in landscape level deer population reductions necessary for future forest health. What is desperately needed to facilitate this are incentives for hunters to fill their tags.

The other missing piece is public education. Most New Yorkers simply are not connecting the dots between deer overpopulation and forest health and biodiversity. They do not realize the cascading ecological effects that decades of deer overpopulation have had on the landscape and its creatures: everything from bird and pollinator populations to invasive species spread and water quality. Realizing this disconnect motivated me to start an Instagram page @ *deerimpacts* where I try to help folks connect these dots.

What are some things you have done to learn how to understand and manage your land more effectively?

In addition to the resources described earlier, there is no substitute for spending time on the land and learning to read it in all seasons. Getting to know the unique microhabitats and learning to identify all the plants that grow here has been one of the greatest educational opportunities.

What advice would you give to other young woodlot owners, or to those considering buying woodland?

Plan to make deer management your number one priority. Learn to hunt and/or develop relationships with ecologically minded hunters, provide access to hunters, apply for and utilize DMAP and Deer Damage Permits (DDP), lobby the DEC and your representatives to give forest owners and managers the tools they need to manage deer. Almost all woodlands in NYS today require active management including deer population reductions and restoration activities. The primary action we can all take to better manage the land we steward is appropriately managing deer. It is a key leverage point whether your focus is managing for timber, birds, pollinators, invasive species, water quality, climate resilience, pest and pathogen resilience, or all of the above.

What do you enjoy the most about being a woodland owner?

It's an unparalleled privilege to walk out my door and immerse myself in the beauty of nature. At the same time I feel that taking responsibility for managing our woodlands, as well as meadows, has given me a sense of purpose and perspective on my place in the natural world. It gives me peace and great joy, despite the many challenges.

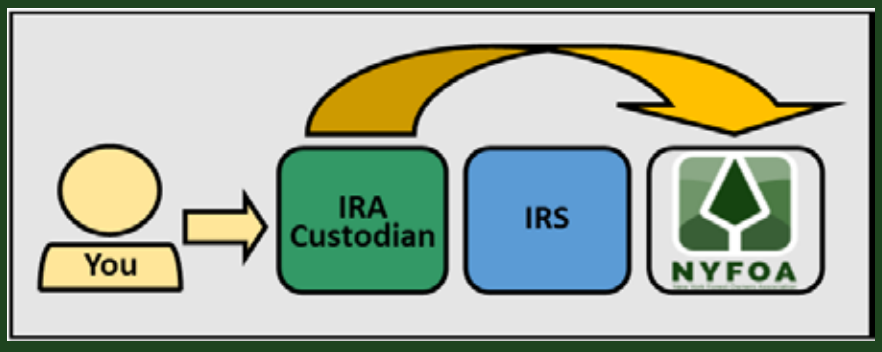
In what ways, if any, do you interact with your neighbors or community as it relates to your woodlot?

Making the connection between deer, biodiversity and forest health was a major wake up call for me and I try to help my neighbors and community members connect these dots on the lands they own and want to better steward. This looks like helping to train non-hunters to learn how to hunt and educating hunters on the need to harvest does, getting involved in local conservation groups and helping grow local awareness around deer impacts. We have offered a few public walks at our place and plan to do more. I also often walk with neighbors in their woods to help them get a sense of what is at stake and help them understand the stressors affecting their forests.

Which NYFOA chapter are you affiliated with? How has membership in NYFOA benefited you as a woodland owner?

I only recently became a member of NYFOA but was motivated to join after going for a walk in Dutchess County organized by the Lower Hudson chapter and Winnakee Land trust. I enjoy reading NYFOA's magazine and am inspired by how NYFOA covers the issue of deer and forest health.

Are you Making Management Decisions About Your IRA?



It's that time of year when some of you might be making distribution management decisions from your IRA. If you are thinking about making a donation to NYFOA, we are very grateful for that consideration. Don't forget that you can make a Qualified Charitable Distribution (QCD) directly from your IRA if you are at least 70 ½ years old and that a QCD can satisfy the required minimum distribution if you are 72 or older. The good news is that a QCD sent directly to NYFOA does not have to be reported as income and doesn't affect your social security benefits or your Medicare B premiums.

Should you decide to make a QCD to NYFOA make sure you fill out the right form with the custodian of your IRA and have the check made payable directly to NYFOA and sent to our address at PO Box 644, Naples, NY 14512. Thank you for supporting NYFOA this way.

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