In These Woods

Issue Two: 2023

Cornell Cooperative Extension
Columbia and Greene Counties

Understanding **Forest Ecology**

This issue of *In These Woods* explores the interconnected world of forest ecosystems. We begin with the history of New York State forests and how past practices can still be seen in our woods today. We'll also learn how different ecological factors shape and impact the condition of our woodlands. While you don't need to be an expert, having this broad understanding of your woods can help guide your decision making and make forests that much more enjoyable.

Issues:

About Us

The mission of Cooperative Extension is to enable people to improve their lives and communities through partnerships that put experience and research knowledge to work. Extension staff and trained volunteers deliver education programs, conduct applied research, and encourage community collaborations. Our educators connect people with the information they need on topics such as commercial and consumer agriculture; nutrition and health; youth and families; finances; energy efficiency; economic and community development; and sustainable natural resources. Our ability to match university resources with community needs helps us play a vital role in the lives of individuals, families, businesses, and communities in our region.

You can learn more about the programs and services we provide on our website. You can also contact us directly to help overcome a challenge, share stories and gather tools to help you achieve your goals. Below is the contact information for our two offices. We look forward to hearing from you.

Acra (Greene County)

Agroforestry Resource Center
6055 Route 23
Acra, New York 12405
(518) 622-9820

Hudson (Columbia County)

Extension Education Center
479 Route 66
Hudson, New York 12534
(518) 828-3346

In These Woods Woodland Stewardship Series is a collaboration among Cornell Cooperative Extension of Columbia & Greene Counties, New York City DEP, USDA Forest Service, and the Watershed Agricultural Council's Forestry Program

Cover photo by Hans Isaacson. National Association of State Foresters.
Tracey Testo along deer exclosure, Siuslaw Model Forest. 2021

CCE Columbia & Greene's

Agroforestry Resource Center

Cornell Cooperative Extension's Agroforestry Resource Center (ARC) was established in 2003 to help sustain the vast, privately-held forest resources in the Hudson Valley, Catskill Mountains and surrounding region. It is home to the Agriculture and Natural Resources team who focus on regional education and outreach in all woodland and working landscape subject areas.

Agroforestry is defined as the combination of agriculture and forestry practices that create integrated, productive and sustainable land-use systems. These practices can include ginseng, mushrooms, maple and other high-value products.

Through a variety of programs and partnerships, CCE offers land stewards economically viable and ecologically sustainable practices to help preserve and manage woodlands. The ARC includes a diverse and talented group of natural resource educators, an interactive indoor space and a 142-acre model forest that supports an outdoor "laboratory" for demonstration, research and hands-on workshops.

To learn more about the Agroforestry Resource Center, visit:
Agroforestry Resource Center at CceColumbiaGreene.org.

Siuslaw Model Forest

Siuslaw (Sy-use-luh) Model Forest is our 142-acre living classroom. It's one of our greatest educational resources and sits right across the street from the Agroforestry Resource Center in Acra. Our Natural Resources team and its partners manage this diverse property for all to experience. It's home to innovative demonstration sites, habitat, trails, and real-world examples of woodland stewardship principles and best management practices.

Siuslaw as a Model

In 2007, Siuslaw was designated a NYC Department of Environmental Protection Model Forest. Siuslaw is one of four model forests in the region that all demonstrate the importance of sustainable land stewardship, forest health and water quality protection through education.

Today, Cornell Cooperative Extension hosts many public education programs in the forest and partners with researchers, ecological monitors, and other institutions and organizations like SUNY ESF and the Watershed Agricultural Council's Forestry Program to bring these resources to the community.

The Siuslaw Model Forest is open to the public during our regular business hours (8:30-4:00 Mon-Fri). There are miles of trails for non-motorized recreation and many interpretive signs that educate around best management practices and activities you can bring home to your woods.

Agroforestry

Check out our tree and understory crop demonstrations, along with the shiitake and oyster mushroom laying yard - great inspiration for your backyard or small commercial operation.

Timber Stand Improvement (TSI)

See the different stages of growth and practices employed to restore habitat or thin dense stands of trees to encourage healthy forest conditions.

Best Management Practices (BMP)

Walk the woods roads and learn about open topped culverts, broad based dips, water bars and other techniques for preventing erosion and protecting water.

Enhancements

There are bird nesting boxes, pollinator houses, American chestnut restoration planting, habitat thinnings and plenty of tree identification markers to keep you learning!

What is Forest Ecology?

Let's start with the basics:

As a landowner or woodland visitor, trying to understand all the building blocks that make woods WOODS can seem overwhelming. There's so much going on! It can be harder still to think about managing a forest without that understanding. That's why this issue of In These Woods starts at the beginning.

Forest ecology is the study of life in areas where trees dominate. It views the entire forest as a community of plants and animals that occupy the same forested lands. This includes the interactions of everything from microscopic bacteria in the soil, primary and secondary consumers, the mature trees, and environmental factors. These interactions are key to knowing your woods because forest ecosystems within your woodlot may be and likely are different than other places. There are a host of opportunities and challenges that influence how your woods look today and how they'll change over time.

Why do my woods look the way they do?

In addition to past practices and disturbances, the factors that influence forest types include slope, aspect, elevation, climate, and soil conditions. Combinations of these can create great variability, influence which tree species grow in a particular site, how fast a tree might grow, and its growth form. These can also support or impact wildlife habitat, water resources, and other woodland building blocks.

It can be helpful to look at each of these factors individually and explore the impacts that they might have in your woods.

Factors of Forest Ecology

Slope and Aspect:

Slope and aspect are factors that modify microclimates, influencing which species grow and how they grow. For example, northeast facing slopes receive less direct sunlight than southwest slopes. Because of this, northeast slopes tend to be cool and moist, while southwest slopes are warmer and dryer.

Elevation:

Tree species diversity can be directly linked to elevation. At the highest elevations in the Catskills, spruce-fir forests with a smattering of birch can be found. Mid-elevation stands are northern hardwood, and lower elevations are commonly home to oak-hickory woodland types.

Climate:

It's no surprise that the overall climate ultimately determines what forest type can grow. Latitudinal gradients cause changes in temperature and precipitation, just as changes in climate from coast to coast and around water bodies. These differences are not only associated with different vegetation, but also the soils and microbial communities that accompany them.

Soil:

Soils within the forest support all life. They are comprised of varying combinations of organic matter, mineral particles, water and air. In addition to these components, soil is home to communities of fungi, bacteria, insects, and worms that make up the biological properties of soil. These organisms decompose materials from the forest stand and produce the organic matter, acting as a conduit for nutrients to be recycled.

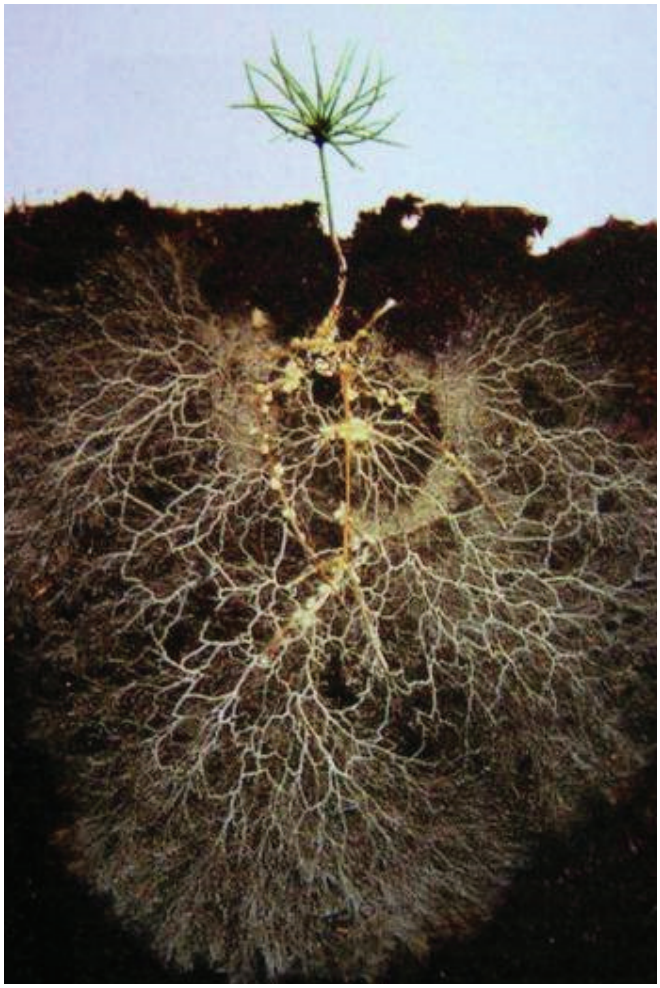
Air and Water:

The amount of air and water in the soil supports the need for plants to acquire air to breath and water for growth from their roots. In the upper layers of an undisturbed forest, the volume of air and water is roughly equal. It is important to note that activities that compact the soil, like heavy equipment, can reduce pore volume and increase soil density, reducing the amount of air and water present.

Connection through Fungi

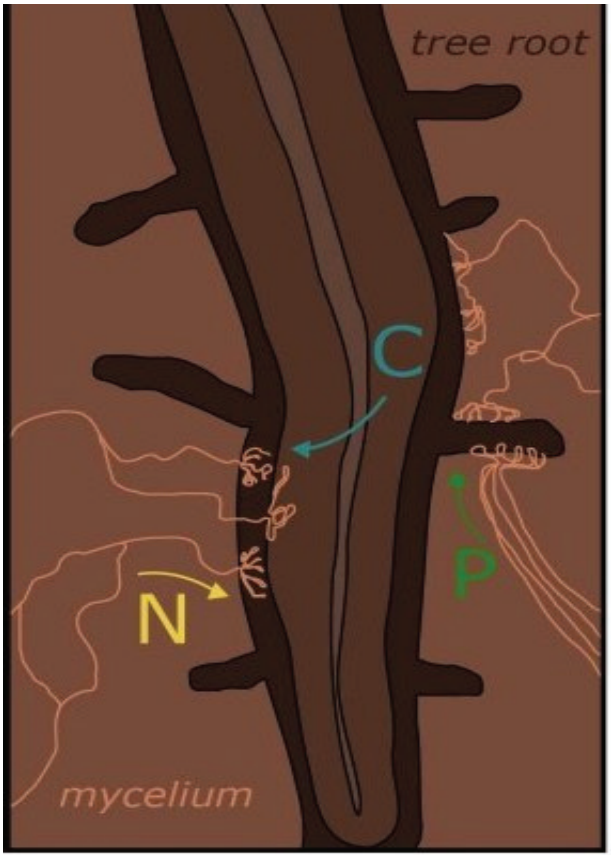
Equally important to forest ecology are the interactions between living things. Traditionally, ecologists thought that trees were in competition for resources necessary to survive, but more recent studies have found that trees actually communicate with each other and share resources! They accomplish this through a mycorrhizal network, or microscopic fungi that create a complex web under the forest floor, which links trees together. Studies of Douglas fir and paper birch showed a back and forth of nutrients between the two species based on ecological factors (like which species was receiving more shade). Trees can also signal to each other when they are damaged or sustain injury.

These relationships show us that there is still much that is unknown about the way our forests function. Gaining an insight to the fundamentals of forest ecology and continuing to seek out new information will be crucial to your relationship with your woodlands. As you continue reading, you'll learn how ecological principles impact our human interactions with the forest.



A small pine tree grown in a glass box reveals its underground network of mycorrhizae (fungi that live symbiotically between and within plant roots).

National Forest Foundation. Underground Networking: The Amazing Connections Beneath Your Feet. 2019. By Britt Holewinski; Photo credit: Professor Sir David Read.

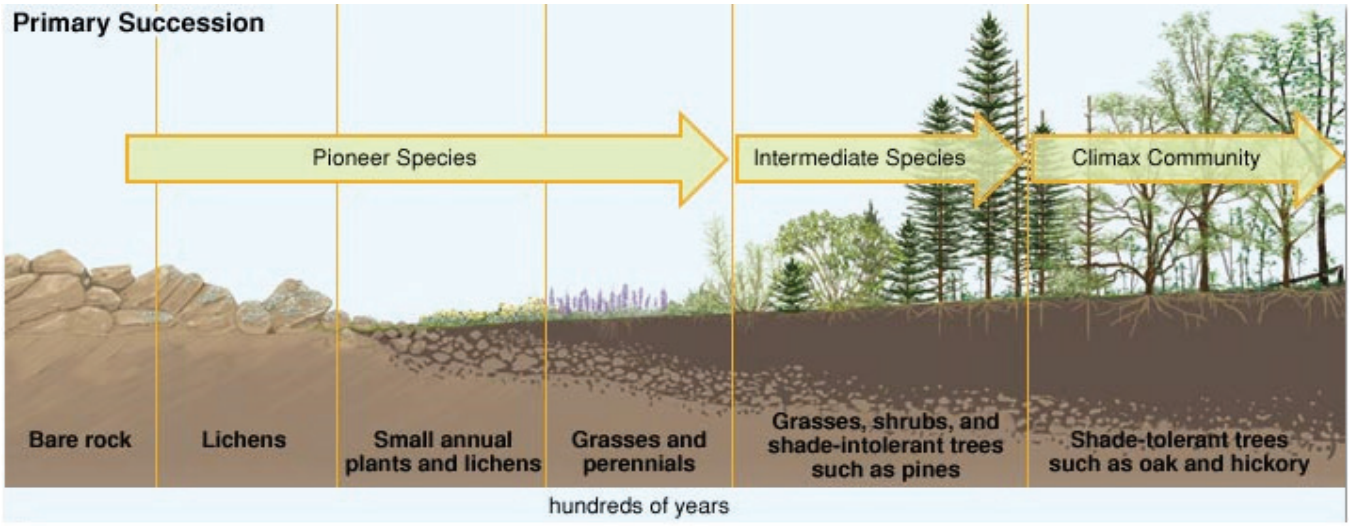


Trees have a symbiotic relationship with micro-organisms in the soil, like fungi. Fungi form white thread like colonies on tree roots as seen in the panel above. Trees give carbon to the fungi in the form of sugar and in return fungi give the trees essential minerals such as nitrogen and phosphorus.

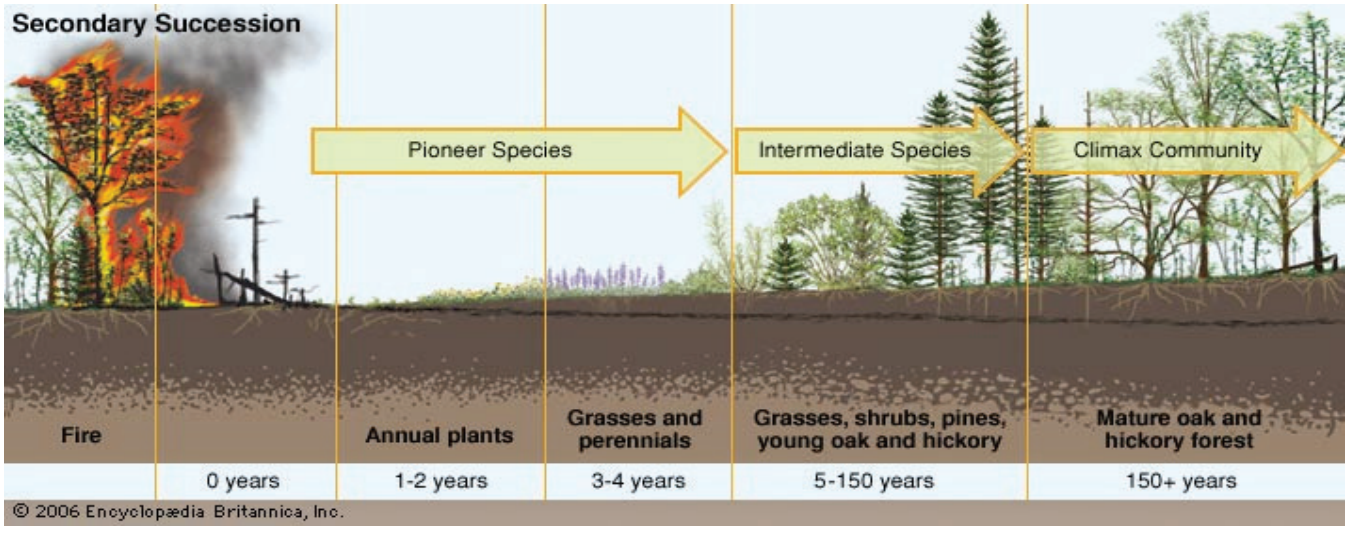
Harvard University: Exploring The Underground Network of Trees – The Nervous System of the Forest. By Valentina Lagomarsino and figures by Hannah Zucker

Forest Succession & Tolerance

Forest ecosystems continually change. Succession is the natural replacement of tree species in an area over time. Each stage of succession creates the conditions for the next stage. Temporary plant communities are replaced by more stable communities until a sort of equilibrium is reached between the plants and the environment in a slow but continuous process. As forest succession progresses, the intricacy of the forest ecosystem also increases. This process can be altered through forest management practices, or by natural disturbance like fire, wind storms, pests and diseases.



There are several successional stages in forest ecology. Following a disturbance, herbaceous species like grasses and forbs grow, followed by shrubs. Pioneer species then become established. Forest successional stages are closely tied to the tolerance of tree species. Early successional species are very shade intolerant, while the intermediate successional species that follow are mid-tolerant to shade. Lastly, sub-climax and climax species, which are shade tolerant, are established. Look to the diagram below for an example of forest succession and shade tolerance.



History of New York State Forests

Roughly 14 thousand years ago, after the glaciers retreated from the northeast, the first forests were born. These were comprised mainly of coniferous trees, followed by northern hardwood-hemlock forests. Aside from management by native people, the only areas for young timber were a result of storm damage, flood or fire. Most regeneration took place in the gaps created by fallen canopy trees.

Native people established seasonal settlements and maximized their harvest of wild foods with seasonal migrations. Some of the earliest evidence of human disturbance to the Northeastern woodlands was the development of agricultural fields to cultivate crops using the three sisters method of corn, beans and squash. In the wooded areas around these fields, silvicultural practices were used. An example of this is setting fire to the understory to increase line of sight for hunting and as a way to favor nut-bearing trees and other valuable forest understory plants. Many indigenous practitioners and communities managed complex agroforestry ecosystems to meet their physical, economic, cultural, and spiritual needs. The effects of Native American silviculture are still evident in our present day forests.

This was all prior to the time of colonial settlement which began around 1625. Over the next one hundred years or so, most of the forested land was cleared for farming and agriculture continued to dominate the landscape. During this time, every community had a sawmill that used pine and hemlock, as the hardwoods were too large and heavy. By 1880, this trend left only 25 percent of the land in forest cover.

Beginning in the early 1890's, agricultural land use began to decline for a variety of circumstances. Some of the lands were found to be unsuitable for agriculture and other areas were used for development. The woodlands in New York State began to return as farmers sought employment in factories during the birth of the industrial revolution.

Through natural regeneration, much of the old farm lands in our region have reverted back to being woodlands. The abandoned fields were ideal nurseries for pine, maple and ash trees. In the early 1900's the first crop of old-field white pines were harvested from these fields. The clearcutting of pines gave the advanced understory growth full sunlight to thrive, consisting of mostly maple and beech. These maple, beech and other hardwoods became a valuable resource for charcoal and other wood products. As those hardwood stands were clear-cut for use, the full sun on the forest floor created favorable condition for cherry, oak and ash.

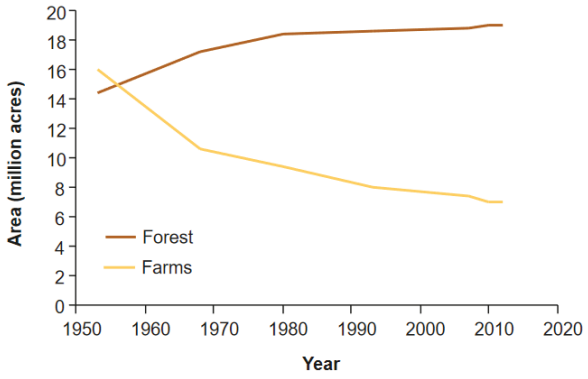


Figure 4.—Area in forest land and farms (including farm woodlots), New York, 1950-2012 (data source: U.S. Census of Agriculture 2010).

New York Forests Today

By the early 2000's, land use for cropland and pasture land covered only 18 percent of the state. Woodlands by this same time had increased to 63 percent or approximately 18.8 million acres.

Where agriculture once dominated the land, only seven counties have greater than 50 percent of its land devoted to agriculture. Twenty-five counties have between 50 and 75 percent of their land as forest, and ten counties have greater than 75 percent land coverage forested. For example, in 1993, the U.S. Forest Service statewide forest inventory reported that Greene, Delaware, Schoharie and Ulster are significantly forested counties, with 79, 72, 67 and 81 percent of their area in forest land, respectively.

Graph courtesy of New York Center for Forestry Research & Development, SUNY ESF and Empire State Forest Products Association. The above graph shows a decrease in forest land area from nearly 30 million acres in 1600 to approximately 6 million acres in the late 1800s. Forest land area then began a continuous increase to 18.6 million acres in 2000 at which point the timeline ends.

A Professional's View

Tracey Testo-Smith, Program Manager

Tracey is CCE Columbia & Greene Counties Agroforestry & Natural Resources Subject Educator. Tracey's main focus is the agroforestry practice of forest farming– growing understory crops such as ginseng and mushrooms. She also works extensively in the worlds of forest health, resilience, regeneration and logger training.

When I see the forest, I see it for the diversity that it presents. Understanding how forest ecology influences the diversity that we see will clue you into patterns across the landscape. By looking at a map to check out a region, elevation, aspect and slope, you can anticipate what the woods might look like in terms of the species present before you even go. The trees and other plants on the landscape connect to so many other pieces of this biological puzzle- what we generally refer to as the food web. The trees filling up the woods, in different vertical layers, are food for the insects. The different insects present make up available food for various song birds. Nut and fruit bearing plants feed birds and larger mammals as well. The nutrient cycling that birds and mammals do through food consumption feeds the forest floor. The leaf litter and dead plant material also aid in this cycling. These contributions to that forest floor support everything from the fungus and bacteria to the salamanders and insects. In my eyes, this is where the real mystery and magic lie. This under leaf and underground world is teaming with life, just out of sight. It is up to us to explore it.

I recall a woods walk I took with a fellow Master Forest Owner, Bonnie Blader. We were visiting with a landowner in the Catskills, who requested our free visit through the Master Forest Owner Program so she could develop a deeper understanding of the hemlock grove alongside a stream that she grew up with and loved very much. As we were out walking along the stream, discussing the crucial function of these great big hemlocks around us, my eyes are on the ground. I spot a Lacterius mushroom fruiting among the moss and squat down to investigate further. I notice many and I picked one cap to examine it. As I do, I see a red-backed salamander that had been happily nestling under the umbrella of this mushroom cap. I call attention to Bonnie and the landowner, explaining what this invertebrate is, its function in the woods as a slow decomposer- one that matches the nutrient needs of the slow growing trees around it- and point out that this is our most common salamander in NYS. I see Bonnie scratch her head in disbelief. She shared that in all her years, in all her time spent in the woods, she had never seen one. She asked how I found it, how I knew it was there. I said, "I didn't, I just looked'.

Looking down is actually an old habit of mine. From the onset of my career, working closely with many forest professionals, I quickly realized that everyone was looking up, looking at the trees, at the way their canopies spread, at the position they stood and how much sunlight they got. Me, I was always looking down. One reason for this is my clumsy nature so I look down to avoid tripping over roots and rocks. The other reason is what drew me to the woodlands in the first place, the forest floor. Fungus in particular but also all of the small woodland plants and wildflowers that grow among the leaf litter and fungal flushes.

Lactarius mushrooms growing in the hemlock stand

Cortinarius mushroom cap, oak leaves and branches, moss carpet, pine needles, maple seeds

As a plant scientist with a focus on herbaceous perennial natives, I quickly had to understand the ecological factors that allowed these plants to not only grow but to thrive. Spring ephemerals are a great example of the deep ties that transcend the classifications of living things. These short season plants depend on associations with mycorrhizal fungus, with insects like ants and with the bedrock geology that creates the soil conditions and offers the nutrients these plants require. Many of these species are often difficult to cultivate since the grower has to understand the plant needs and then mimic them in the garden.

Photo: This is trillium erectum, the red trillium. Trilliums require a vesicular-arbuscular mycorrhizal association with their roots systems to access all required nutrients while the trillium shares sugars with the fungus from its ability to photosynthesize. They grow in mixed hardwood forests and need high amounts of organic matter that develop from the decomposing leaves of those trees.

A look to your woods:

Now let's turn our attention to the woods you know and love... After reading the introductory articles on the history of our forests and on the factors of forest ecology, try looking at your woods with a new lens. A lens that sees the manipulations and management over the last 300 years and considers how those impacts, along with the environmental factors, have transformed your landscape. Applying what we learned about the species that transition through the stages of forest succession from varying levels of shade tolerance can help one see what might have happened and when to their trees or woods as a whole. Developing this understanding of past land use can be helpful in decision making to move your woods forward. An excellent resource is Tom Wessel's book "Reading the Forested Landscape" (1997) and a companion field guide "Forest Forensics: A Field Guide" (2010).

I have found that many folks approach the woods as a pristine and untouched natural world. One that would benefit from being left alone to care for itself. Once the reality and history of mismanagement sets in, landowners and managers realize the responsibility they have to steward the land back to a state of health and abundance, just as we feel responsible to act on climate change.

Investigating past land use — State owned forests in the Northern Catskills: Seen here is evidence of past human activity in the form of stone walls. In this region of the state, many of these walls were built to border properties and act as fencing with livestock, mostly sheep. When examining the trees, it can be noted that they are mostly hop-horn beam (Ostrya virginiana). This species grows on highly compacted soil where many other trees cannot survive, re-affirming the theory of past agricultural uses. In addition, the woods have a long line of sight, meaning that the understory if sparse or missing. This is a result from over browsing by deer.

There are a number of human factors, beyond the way colonial settler's managed the landscape, which impacts our woods today. As we have learned with forest ecology, these factors all interact with one another and further compound the problem. Here are a few examples of those impacts we all deal with and should consider when thinking about managing a forest back to state of health.

This is a photo of the canopy above a red oak thinning. Thinning can be presented as a method of stewardship to improve diversity by increasing sunlight to the forest floor which will encourage new species of plants and trees to grow. Changing the forest successional timeline through small manipulations can make a big impact on biodiversity and forest health.

High Grading

High grading is a timber harvesting approach that is still employed today, one that takes the best trees for lumber sales and leave the poorer quality trees. Those high quality trees often grew so successfully because they have strong genetics and are the exact trees you would want to leave in the woods so their genetics can spread through seed. Removing those genes, and leaving inferior ones perpetuates the low-value stands of timber and leave your woods vulnerable to impacts from pests and diseases.

Timber Stand Improvements (TSI)

Considering the fact that many landowners have inherited woods of poorer quality trees presents an opportunity to play a role in assisting our woods back to a state of health and vigor. TSI cuts, or Timber Stand Improvements, is a method to do just that. This method aims to identify the healthy trees to keep and targets the poorer quality trees to thin out. The wood from this thinning can be left to feed the forest floor and act as a natural barrier to deer or it can be pulled out and used for firewood, growing mushrooms, building projects, or anything else you can think of!

Working with a professional land manager, such as a forester, can help get you and your woods on the right track. Cutting trees and harvesting timber isn't for everyone but when it's utilized as a management tool, it should be done with an eye to improve the long term health of the woodlands around you. Having a trained professional to guide you through this process is crucial. Check out the following article on 'working with a forester' to learn more about this process.

Photo: Trees of straight form and strong vigor were marked by a forester prior to this thinning. The genes from those trees left will be passed along through seed as the forest regenerates.

Deer Browse

Humans have highly impacted the populations of deer through the 19th and 20th century. At first, with an approach to reduce the population size followed by an approach to rebuild herd size. Deer populations throughout the northeast are currently on an upswing. And with reduced habitat from development and changes in land management, their impacts on our forests are huge. When deer turn to woodlands for food, they are mostly targeting buds on young hardwood trees. With high populations and reduced food availability, they consume so many tree buds that the forest is not able to regenerate new trees. This results in a park like setting, with the understory missing from the picture and not much left growing beside the invasive species they do not care to consume. Again, without intervention, this problem will continue to grow, impacting not only our food lands but also posing a human health impact through the spread of disease carrying ticks.

(Left) Clearcut deer exclosure- The installation of a NYFOA Restore New York Woodlands funded deer exclosure following a patch clear cut.

(Right) Deer browsed oak- this oak seedling has been browsed repeatedly by deer. Season after season of this browsing causes the oak to grow in a shrub like form and the seedling might not ever recover.

(Bottom) Deer exclosure_unfenced vs fenced- This photo looks down the line of a deer exclosure in our Siuslaw Model Forest. To the right you can see inside the fence is flush with vegetation while the left is the unprotected forest around the fence with very little vegetation in comparison.

Invasive Species

Species that did not evolve with our local flora and fauna do not contribute to our ecosystem in the complimentary ways our natives do. The dead plant material that falls to our forest floor or stream bottoms do not have the nutritional content that the decomposers require. Their seasons often begin before and continue after the cycles of our natives, allowing them to out compete the plants around them. This cycle will continue unless broken by human intervention.

Example: Japanese Barberry (Berberis thunbergii DC) was introduced in 1875 and promoted as an ornamental substitute for common barberry (Berberis vulgaris), which is a host for black stem rust. Prevalent in the East and Midwest of the United States, it forms dense stands that compete with native trees and plants (from USDA Plant Profiles).

Additional Example: Emerald Ash Borer

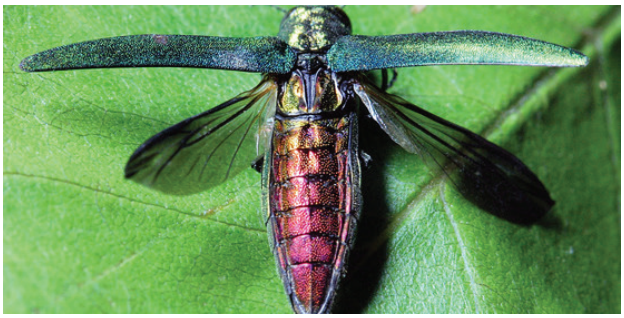


Image by David Cappaert, Michigan State University.

Additional Example: Hemlock Woolly Adelgid

Image by CT Ag Experiment Station Archive.

While we begin to learn and understand these definitions of forest ecology and the factors of forest ecology, I encourage you to keep in the front of your mind, how very connected all of these pieces are. How each and every morsel of the landscape is either working in competition or in symbiosis and the results of these interactions make up the natural world we see around us. How a flower can't exist without a fungus. How the trees can't grow without the salamander. And how all of those species are sharing the same space and time because of the same environmental conditions and physical features. Most importantly, as stewards of this landscape, consider how you want to be involved in these interactions and the role you want to play in the environment around us.

The Role of Forestry

Forestry is the art, science and practice of managing woods. Professional foresters consider all of the ecological factors when assessing past, present and future woodland conditions. Their work often balances landowner goals with their knowledge and experience in achieving those goals sustainably.

Forestry as a profession in the United States only dates back to its beginnings in the early 1900's, with its scientific roots in Europe. Forestry as a multiple use discipline emerged at a national scale in the 1970s, with decision-making influenced by other public benefit motivations. The role that forests play beyond growing timber are now well recognized and have good science to inform decisions made by woodland owners and managers alike.

Woodlands filter water; produce oxygen and sequester carbon; create opportunities for recreation and are often linked to reducing personal stress levels. They can produce sources of timber and non-timber income all while providing dynamic habitats for wildlife. Forestry in its broadest scope is a key component in managing healthy ecosystems, combating the impacts of climate change, and achieving your goals on the ground.

Working With a Forester:

In addition to timber harvest work, professional foresters can also help with non-harvest questions. The long list may include trail design, appraisals, tax determination and tax programs, managing for wildlife or general health.

In New York, there is no legal definition of a forester, so very qualified and less qualified individuals may use the title. This can leave woodland owners confused about competency or where to find the right professional for them. Fortunately, there are quite a few resources to help you locate and choose a forester that aligns with your goals and budget.

Check out the Forest Ecology Resources page for more information on finding a forester.

Picture: CCE staff joined our consultant forester in Siuslaw Model Forest this past year to inventory the mature trees and understory vegetation. This routine process is part of management planning so that we can understand the condition and make the right stewardship decisions for our woods.

Forest Ecology Resources

Forest Management Support

Working with a professional to begin or enhance your forest management planning process can be an incredibly valuable investment of both time and resources. There are multiple public programs available to landowners who want to explore their options. Some of these services are free and can help start you on a path toward deliberate and sustainable decision-making.

Forest Stewardship Program - NYS Dept. of Environmental Conservation
Management Assistance Program - Watershed Agricultural Council
(WAC's MAP Program for New York City Watershed only)

Working With A Forester

Working with a forester to develop a management plan or help with a significant project, like a timber harvest, is an important part in protecting your woods and your assets. When hiring any trained professional, it's important to do your homework. These resources provide a background on how to find, choose and develop that relationship based on your particular needs.

Choosing a Forester - CCE Columbia & Greene
Finding a Forester - New York Forest Owners Association
Cooperating Forester Program - NYS Dept. of Environment Conservation

Natural Resource Inventories (NRI)

NRI's provide a glimpse into the natural resource of any given area. They are essentially an assessment of ecological features, species and other important resources. They can be used to prioritize conservation efforts or summarize the wonderful world around us. As you consider the bigger picture of the woods both regionally and locally, these are helpful tools to guide your curiosity.

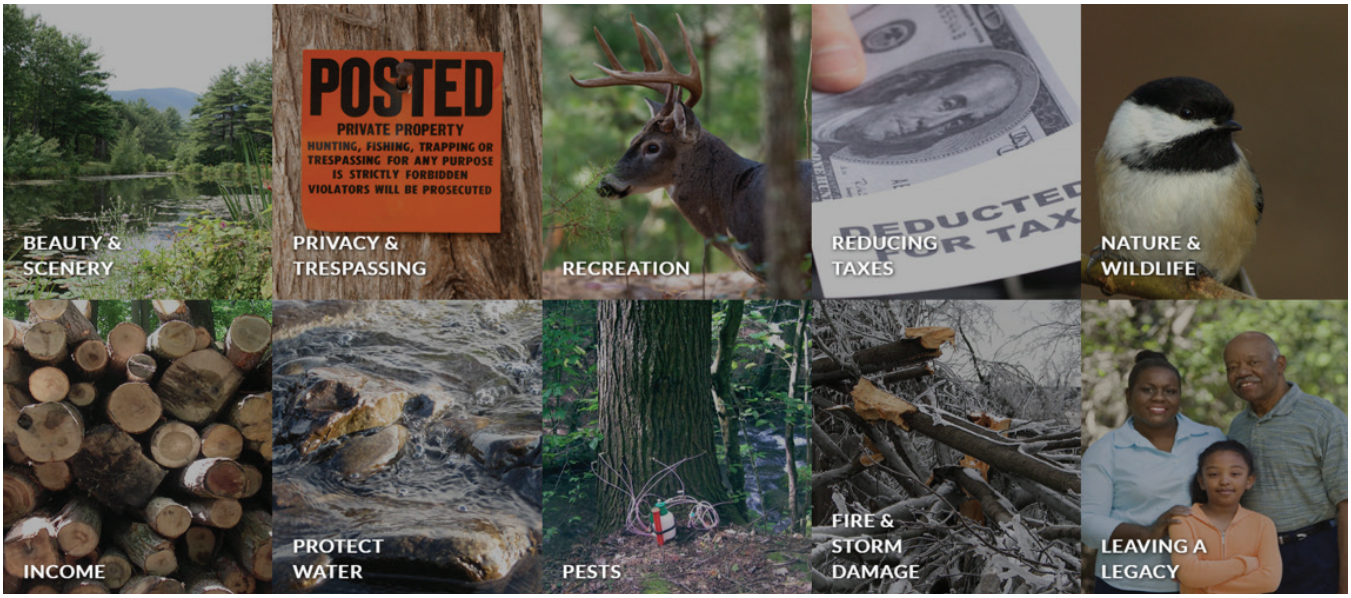
Greene County Natural Resource Inventory & Story Map
Columbia County Natural Resource Inventory

Species Identification

Learning how to identify species, understand suitable conditions and habitats can broaden your experience and help guide your decisions. Here are multiple tools to get you started. You can also choose from a wide array of field guide focused on the Northeast region.

Know Your Trees, 50 Common Species in New York - Cornell Cooperative Extension
iNaturalist App - an online community platform for reporting and identifying species

Resource Collections



MyWoodlot

As highlighted above, MyWoodlot offers a wide selection of resources on woodlands. There are activities and blogs from professionals and other landowners that highlight projects and ideas that you can actually implement. The activities broadly include beauty and scenery, privacy and trespassing, recreation, reducing taxes, nature and wildlife, income, protecting water, pest, fire and storm damage, and leaving a legacy.

Create your MyWoodlot profile for free to save and organize activities and resources that match your goals. Follow the link below to begin exploring all these resources and keep up to date with new activities that are added weekly!

Visit MyWoodlot

ForestConnect

A Cornell University resource to connect woodland users to the knowledge and resource needed to ensure sustainable production and ecological function on private woodlands. The site houses information for woodland stewards, educational resources and offers countless webinars on a wide variety of woodland topics.

Visit ForestConnect

CCE Columbia & Greene

Visit our site to find resources and more information on upcoming events. Our Natural Resources Team is also ready to support you in all your woodland stewardship goals. Please reach out if you're looking for specific information, have questions about your woods, or need assistance in determining next steps.

Visit CCE Columbia & Greene

Woodland Owner Networks

Women Owning Woods

We are a group of women landowners and natural resource professionals from the Catskills and the Hudson Valley region of New York. We've organized this group of professionals and landowners as a way to foster learning experiences and discussions about forest property. Details about gatherings will be sent out via email in our eNewsletter. To subscribe to that list you can email wow@nycwatershed.org to join.
Follow us on Facebook to stay connected, share your stories, and learn from your peers.

Find WOW on Facebook

Master Forest Owner Volunteers

The Master Forest Owner (MFO) program provides private woodland owners of New York State with the information and encouragement necessary to manage their forest holdings wisely. Since its inception in 1991, MFOs of Cornell Cooperative Extension have helped over 1,000 landowners. The term "Master" Forest Owner implies education as in "School-Master". Experienced and highly motivated volunteer MFOs are available statewide, ready to assist neighbor woodland owners with the information needed to start managing their woodlands, through free site visits to landowners properties. The training volunteers receive complements their experience as forest owners.

Learn more about the MFO Program

Catskill Forest Association

The Association was formed for the purpose of promoting knowledge and understanding of forest ecology and economics; to promote long-term forest management; to educate the public and enhance the economy of the Catskill region; to demonstrate economically feasible and environmentally sound forest practices: to serve as a source of information about forest management; to serve private landowner rights; and to identify and manage private forest lands dedicated to the demonstration and practices of high standards of forestry.

Learn more about the CFA

New York Forest Owners Association (NYFOA)

The mission of the New York Forest Owners Association (NYFOA) is to promote sustainable forestry practices and stewardship on privately owned woodlands in New York State.

Learn more or join NYFOA

Cornell Cooperative Extension
Columbia and Greene Counties

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Mission

Cornell Cooperative Extension Columbia and Greene Counties puts knowledge to work in pursuit of economic vitality, ecological sustainability, and social well-being. We bring local experience and research-based solutions together, helping Columbia and Greene County families and communities thrive in our rapidly changing world.

CCE Columbia and Greene Counties is a registered 501(c)(3) nonprofit.