

# Field Visit to the Wilton Land Trust (WLT) Marble/Van Haelewyn Preserve at Abbot Lane in Wilton CT &

Field Visit to the Town of Wilton Sackett Preserve at Ridgefield Road in Wilton CT

## Post Visit Report

Present Parties: David McCarthy (WLT ED) and David Beers (Western District Service Forester) on 3/19/2024: 10:30-1

## **Stewardship Objectives**

- 1. Improve forest health
- 2. Maintain property amenities



#### PROPERTY OVERVIEW

Please note that this report covers the entirety of one contiguous property under two ownerships. The ownerships are shown on the attached maps and discussed separately in this report, where appropriate. The Town's Sacket Preserve consists of 33 acres, 27 of which is forested. The Trust's Marble/Van Haelewyn Preserve consists of 45 forested acres.

The Sacket Preserve has road frontage on, and an access drive off, Ridgefield Road. The access drive leads to hiker parking and a trail kiosk. Marble/Van Haelewyn Preserve has hiker access and a trail kiosk at the end of Abbott Lane, where roadside parking is available. The property Trust's land also has road frontage on DeForest Road and Cheese Spring Road.

The property is surrounded by mostly residential development, with scattered blocks of forest and farmland. No other protected open space abuts the property. This is a mostly developed landscape, with a few small blocks of forest and farmland.

This forest is part of a small core forest block having less than 250 acres of contiguous forest. Core forests are large tracts of unbroken forest that provide a much more stable home for plant and animal species, thereby protecting biodiversity. They are forested areas surrounded by more forested areas.

The CT DEEP Natural Diversity Database (NDDB) does **not** have occurrences of threatened or endangered species on or near this property. Maps showing wetland and farmland soils is attached to this report. This property is in the watershed for Norwalk's Rock Lake water-supply reservoir. Huckleberry Hill Brook runs north to south through the property. This property is in the Norwalk River watershed.

In the attached 1934 air photo, the current forest was forested. Areas that were forest in 1934 were likely pastured over 100 years ago.

In addition to the 72 acres of forest described below, are 6 acres of periodically mowed fields on town property. There is an extensive marked trail network throughout the property.

Please see the attached appendix for more information about the history of your forest, the future of your forest and some general recommendations. An appendix of Latin names for the tree and shrub species is also attached.



#### FOREST VEGETATION (~72 ACRES)

Uncommon

Black Gum

Slippery Elm

Sassafras

## **Tree Cover**

Beech

Most CommonCommonRed OakBlack OakHickoryScarlet OakTulip PoplarWhite OakChestnut Oak

Black Birch Yellow Birch Sugar Maple Red Maple

This forest has a diverse mix of tree species and sizes growing on site conditions that vary with slope position and soil moisture. In the drier uplands, oak and hickory dominate the forest. In the wetter lowland forest, maple, birch and tulip poplar are more common. The forested wetlands are the domain of red maple, black gum and slippery elm.

The forest is mature, with full canopy closure. There is no canopy midstory to speak of. There are 18 acres of forested wetlands within this forest.

## Understory

There are a few maple, birch and hickory saplings, with thick patches of beech saplings root suckers. There are also some witch hazel and mountain laurel shrubs, with some areas of thick spicebush shrubs in the wetter lowlands.

#### **Ground Cover**

In areas with thick invasive shrubs (barberry, rose, burning bush), the leaf litter is degraded and thin. Areas free of invasives appear to have a good thick healthy leaf litter. There is a good amount of woody material throughout the forest floor.

#### Forest Health

It looks like beech leaf disease has begun to infect some of the beech trees. This is a microscopic nematode from Asia that has recently begun to spread throughout the state, and it is still unclear the long-term prognosis for infected beech trees. The drier uplands have patches of pure mature beech trees that are dying from beech leaf disease.

The emerald ash borer has killed the ash trees within the past 10 years. It appears that ash was a minor component of this forest.

The lack of species canopy structural diversity makes this forest less resilient to future disturbances (weather, climate, pests). On the other hand, the good tree and shrub species diversity makes it more resilient. The large deer herd in this part of Connecticut makes growing certain preferred browse of deer, like oak and hickory seedlings, difficult.

The Trust property has a few scattered patches of invasive exotic barberry shrubs in the wetter soils. Pretty minor overall.

The Town property has some areas of thick exotic invasive shrubs. Shrubs include barberry, burning bush and multi-flora rose. The eastern upland wetlands are thick with head-high burning bush and knee-high barberry and rose shrubs. I also saw a patch of thick grape and bittersweet vines on the town land. Please see the appendix for more information about exotic invasives and their control.

#### Wildlife Habitat

The many mature oak and hickory trees in your forest are a great wildlife habitat asset, especially the acorns and nuts they produce. Having a diversity of habitat types (forests, fields, wetlands) intimately mixed, like you have, is always a good thing. Your forest is lacking in vertical structural diversity in the canopy. It is providing adequate food, water, shelter, cover and space for much of the wildlife in the area. Please see the appendix for more information about wildlife habitat.

Included within this forest is potentially three vernal pools – see map. Vernal pools are depressions that fill up with water in the spring that have no stream outlet. Without an outlet, there are no predactions fish, which makes them perfect for amphibian eggs. Many amphibians rely on vernal pools exclusively for their egg and larval stages.

## Carbon and Climate Resilience

This mature forest is storing a large amount of carbon while actively sequestering more. Any forest products you produce will help mitigate climate change. There are some recommendations below to make forest more resilient and adaptive to climate change. There is more information about forest carbon and the forest's ecological services in the appendix.



Eastern Vernal Pool

## Forest Vegetation Recommendations

The tree-hanging vines (mostly grape and invasive exotic bittersweet) reduce the vigor of the mature trees by shading and choking their upper canopy and perhaps even pulling down tree branches. I recommend cutting these vines with a handsaw or chainsaw. This cutting could be done during the growing season when the energy stores of the vines are above ground. Two cuts should be done at chest height about six inches apart to prevent vine reconnection. In shaded areas, I do not think that the cut vines will survive. To be extra sure, you can treat the freshly cut rooted end with an herbicide immediately after cutting – see photo of the buckthorn blaster in the appendix.

Invasive control on the town property as you deem appropriate – see appendix.



Trail through exotic invasives in the upper eastern wetland on town property

#### CONCLUSION

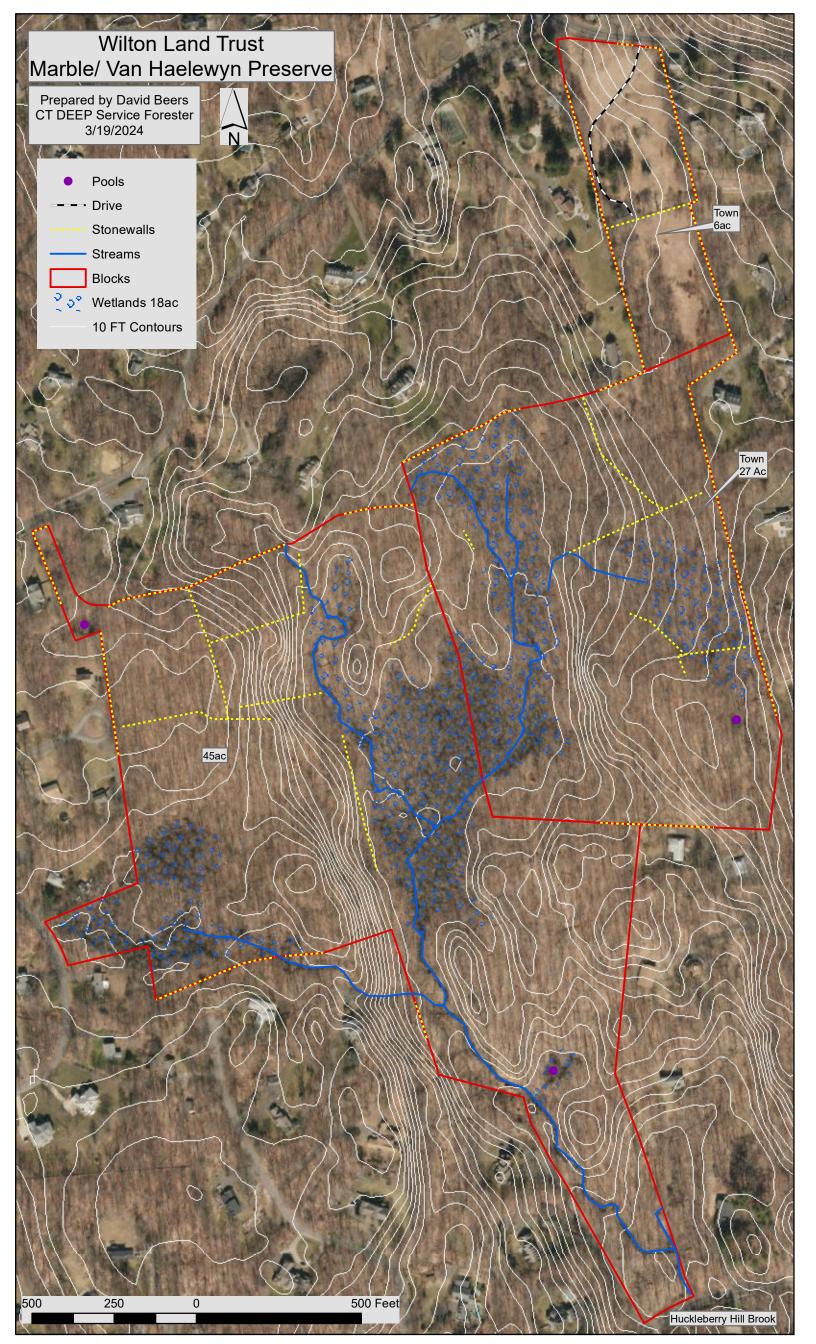
## Here are some possibilities for your forest:

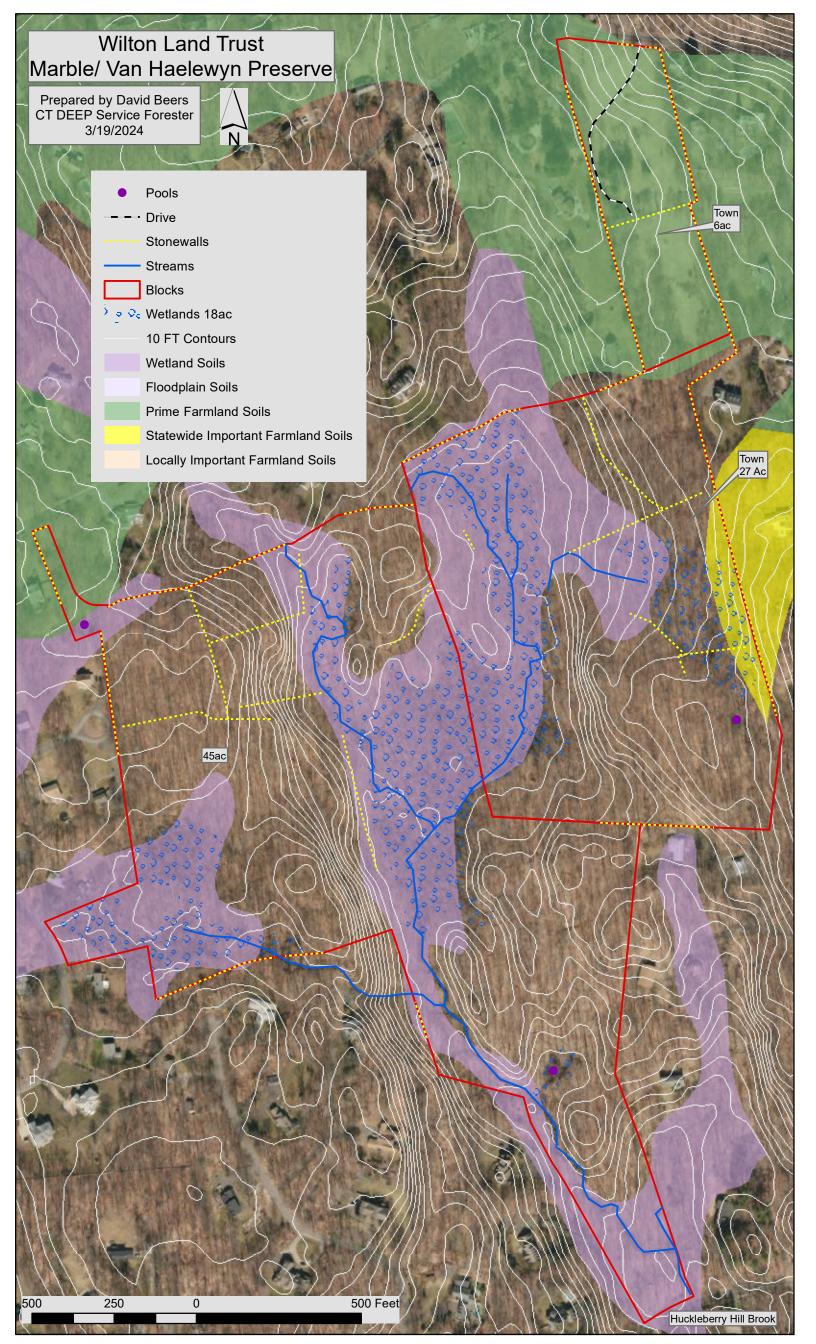
- Contact NRCS and/or a private forester about doing a forest stewardship plan
- Cut and treat vines (grape and bittersweet)
- Invasive control as you deem appropriate on town property
- Properly locate and mark your property boundaries
- An annual property inspection that includes property boundaries

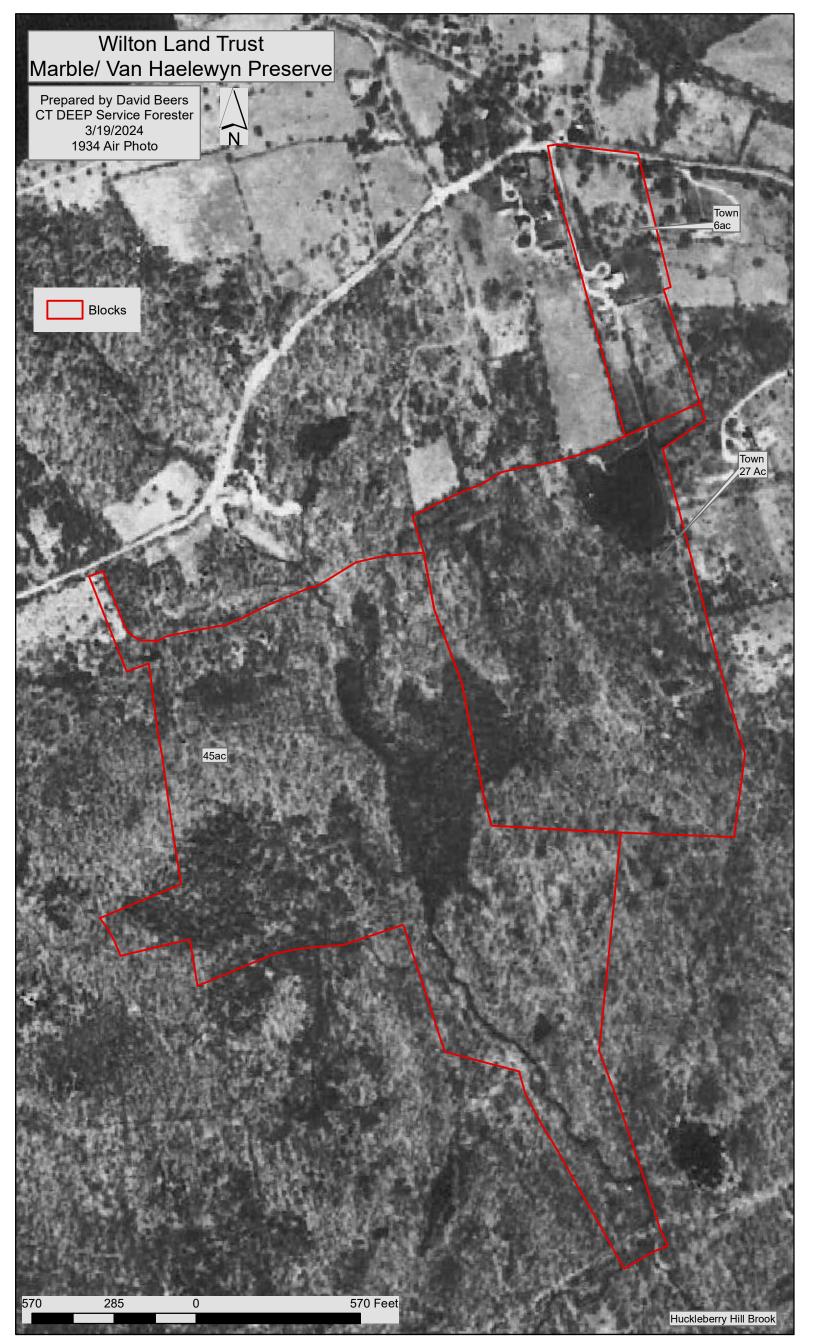
Please consider hiring a forester to help you implement any of the recommendations in this report. I highly recommend you contact the <u>Climate Smart Land Stewardship Grant Program - Connecticut Land Conservation Council (ctconservation.org)</u>. Ricky Bentley is the coordinator: <u>rbentley@ctconservation.org</u>. There might be funding for projects on both properties available. **Because the land trust holds a conservation easement on the town property, the town property would be eligible for a grant.** There might be cost-share monies through the Natural Resource Conservation Service (NRCS). Please contact Todd Bobowick at 475-355-3864. Please feel free to share this report.















#### APPENDIX

#### FOREST HISTORY

Between eighteenth century colonial settlement and the mid-nineteenth century, most of western Connecticut was cleared for farming, with only a few small patches of forest remaining by the mid-nineteenth century. Only 25% of Connecticut was forested then. Under these conditions, the biggest animal left in the woods was a muskrat. Turkeys, deer, bobcat, beaver, and bear were either rare or entirely gone. Most of the land was used for livestock pasture, with only the best soils used for hay or tilled crops. Imagine a very open agrarian landscape.

It was during this farming period that the stonewalls were built to keep livestock out of crops and the neighbor's property. Most of these walls were topped off with piled wood and stumps to make them taller. Stonewalls were also a depository for rocks removed from cultivated land. A stonewall with many fist-sized rocks means that one side of that wall had tilled crops, where the winter freeze of bare ground would push rocks to the surface. After barbed wire became widely available in 1875, many of these walls were supplemented with wire. Barbed wire was used to corral cows and goats, but not sheep (barbs did not hurt the sheep). Sheep pasture used smooth-wired rectangular page fencing.

Most of the western CT hill farms were abandoned between the mid-nineteenth century and early twentieth century. The farmers either moved west for better farming soils or headed to the cities for industrial work. Immediately after this farm abandonment, the forest began to take over again. Much of the young forestlands were then cut down to make charcoal that was used in metal blast furnaces and by blacksmiths.

For charcoal making, small young trees were cut into 4' lengths and carried by hand to make a circular pile about 30' wide and 10' high. A ditch was dug around the circumference of the pile and the soil from the ditch covered the pile to limit the amount of oxygen in the smoldering pile. Once the low-oxygen burn was completed in two weeks, the almost pure carbon charcoal was removed for transport to market. Charcoal produces the hot fire needed for metal working.

While this charcoal making process had occurred since settlement, it came to a crescendo between 1880 and 1920. At that time, much of the landscape was cut multiple times, with patches of smoke rising from active charcoal mounds across the hills. By about 1925, less expensive coal ended charcoal making and the forest once again began growing back. The repetitive cutting of young trees for charcoal encouraged the proliferation of oak trees. Of all the tree species, oak responded best to the repetitive cutting. This, along with frequent wildfires, helped give rise to the oak dominated forest we see today.

The 1934 map is attached. Please keep in mind that you need to mentally adjust the map because the map scale projection does not exactly match what we use today. To see what ancestral homeland existed on your property before settlement, please visit <u>Native-Land.ca</u>, and type in your address.

#### FOREST FUTURE

Active forest management can nudge a forest in different directions by manipulating which trees continue to grow and how much the forest floor is exposed to sunlight by creating canopy openings of different sizes and shapes. For example, we can nudge the future forest towards oak by leaving oaks to grow and produce acorns, creating canopy openings of sufficient size to bring in the sunlight young oaks need to grow, and hunting the deer that like to eat young oak trees. Without these manipulations, and without significant natural disturbances (wind, ice, pests); the forest will gradually transition to shade tolerant trees that are not eaten by deer (hemlock, beech, black birch and red maple).

#### GENERAL RECOMMENDATIONS

#### **Forest Protection**

For more long-term protection, a conservation easement could be donated to a local land trust on part of the property to prevent development in perpetuity. The value of the easement might be income tax deductible over many years and there may also be estate tax benefits. Please contact your local land trusts for more information using this link: Find A Land Trust - Connecticut Land Conservation Council (ctconservation.org). Please contact NRCS about HFRP (Healthy Forest Reserve Program) for funding of a conservation easement using this link: NRCS Accepting Applications for HFRP Program | Natural Resources Conservation Service (usda.gov).

## **Diversity**

A healthy forest has a large diversity of native plant species, particularly trees, that supports a diverse array of fungi and wildlife (animals, insects, microbes). A healthy forest also has multiple layers of native vegetation to maximize biodiversity and structural complexity. This means having trees of different ages, diameters, and heights. A healthy forest has both standing dead trees (snags) and dead downed wood as important habitat elements and to hold moisture during droughts. A healthy forest is resilient because it is better able to handle diseases, pests, and extreme weather events. Increasing species and structural diversity of this forest provides multiple pathways of recovery from disturbance.

As part of improving forest landscape diversity, you might want to consider establishing some patches of young forest. With over 89 birds, mammals and reptiles that need young forest habitat, young forest is nature's pantry for wildlife due to its abundance of insects and berries. It also provides our mature-woodland wildlife with important food and cover at critical times of the year. Ideally, 5-10% of our landscape should be young forest. Unfortunately, our landscape rarely has this much young forest because we prevent such forest forming naturally via fires and floods, but we can mimic natural disturbances with well-planned forest stewardship activities to create patches of young forest.

## Invasives/vines

Invasive species are typically from another part of the world and when established here they have no native enemies to hold their population in check. When left uncontrolled, they spread into natural landscapes and replace what would grow there naturally, including tree regeneration and other native understory vegetation. Native understory growth has many more native insects and arthropods that wildlife needs to forage on. Exotic invasive understory growth can provide better habitat for ticks and associated pathogens while greatly reducing biodiversity.

Control methods include mechanical and chemical methods. In a shady forest, cutting a vine is enough to kill it. Invasive shrubs are not so easy. Pulling the invasives out by the roots can be effective, but extremely difficult and labor intensive. Yearly cutting back of the aboveground stems, during the growing season, will keep the invasives under control, and perhaps kill them after a few years. The most effective control method is to apply an herbicide to the green foliage, and to cut the larger invasive shrubs and treat stumps with a herbicide to prevent resprouting.



Buckthorn Blaster herbicide applicator for vine and invasive shrub eradication

## Lawns and fields

The fields provide an opportunity to help pollinators and native insects. Insects and pollinators (bees, butterflies, moths, beetles, flies, wasps, hummingbirds), along with the many birds that depend on them, are in severe decline. By delaying annual mowing until after the first hard frost in October and before the beginning of plant growth in the spring, you will allow pollinators to use your fields for food and habitat during the growing season. Another habitat management strategy is to mow one-third to one-half each year on a rotational schedule. This allows some insects to overwinter in the uncut plant stalks and provide birds with much-needed winter food. For this reason, late winter mowing is best. Please keep in mind that healthy meadows store more than double the carbon of a mowed lawn.

There are also many opportunities to create pollinator-friendly habitat/food by adding native plantings, allowing areas of lawn to go natural, and leaving leaves and needles to cover the ground in these areas. Insects will overwinter in leaf litter and uncut plant stalks. Birds will pick through the winter leaves for insects. For more information please visit:

Pollinator Pathway (pollinator-pathway.org)

#### **Boundaries**

Boundaries need to be well marked to protect the property from trespass and encroachment. Painted blazes are typically used to mark property boundaries. A blaze is a hand-sized shallow scrape in the bark. This scrape will last for decades and does not harm the tree if done properly. When painted, this blaze is quite visible and long lasting. Trees within arm's length of the boundaries are blazed, with the blazes facing the boundary line. Use only paint marks, without blazes, on the neighbor's side of the line. The blazes should be given a new coat of paint at least every 10 years. Custom signs can also be hung about every 100 feet. Understory vegetation and debris can be cleared from boundary lines such that the lines can be easily traversed for inspection. Please consider hiring a forester to locate and mark property boundaries.

## Wildlife

Your forest, and the State of Connecticut in general, is lucky to have a significant and diverse component of mature oak trees (mature trees have reached maximum height). Oak trees are considered a wildlife keystone species because of the large amount and diversity of life they support – more than any other tree. Acorns, especially white oak acorns, provide the most nutritious plant-based protein for almost 90 species of wildlife. Oaks overwhelmingly host the most species of moth and butterfly caterpillars (over 500), which in turn anchor a biodiverse food web. Oak forests have more bird abundance and diversity compared to other forest types. Oaks also produce the thickest, most ecologically beneficial, and longest lasting leaf litter; that has the most abundant and diverse soil biology. This top-of-the-line leaf litter can keep out invasive exotic stilt grass and jumping worms. It also purifies and holds the most water. For these reasons, it is important to preserve and encourage oak growth and health in your forest.

Parts of this forest have legacy trees, also known as old field trees or wolf trees. These trees were growing in open pasture, as a source of shade for livestock before the current forest started growing. They are much older than the surrounding forest. Because they used to be open grown, they have large spreading crowns and large branches low on the trunk. When the pastures were abandoned, they became a significant seed source for the present forest. These large old trees are structurally complex, with many cavities, hollows, fat branches, and thick, rough bark. They are also prolific seed producers, including acorns and nuts. This structural complexity and prolific seed production attracts an enormous number and diversity of insects, birds, and mammals. Underground, the old trees are also the hub and source of the complex fungal soil mycorrhizal growth that all trees depend on for water and nutrients. To make them healthier and more vigorous, such legacy trees could be protected and perhaps even given more sunlight by cutting some of the surrounding trees. These agrarian vestiges have become the ecological hubs in your forest. They are also great source of future large snags and large dead downed wood.

#### **Ecological Services**

Forests remove carbon dioxide from the atmosphere (called sequestration), create oxygen, and remove many pollutants from the air and water. Forests absorb heavy rains and release that water to streams and underground aquifers during droughts. Your forest contributes to these valuable services with carbon stored in the below-ground roots/soil and in the above ground vegetation, dead wood, and fallen leaves. These services are enhanced by having a diverse mix of native tree species of different sizes and varied arrangements. Sustainable, scientifically based forest management to remove forest products and promote young forests or regeneration of desired species has no long-term negative effect on your forest's ability to provide these vital ecological services. When trees are young and growing fast, they sequester carbon at high rates and once they are large (over 18" diameter, and often older) they store the most carbon. Whether you choose to actively manage your forest or not, your forest does a great service to our planet's health just by being a healthy forest.

Forests store carbon in different pools, and the amount of carbon in these pools changes over time. The pools are the live aboveground (trees, shrubs and other plants), live belowground (roots and fungi), deadwood (standing dead trees [snags] and downed logs, litter (leaves, needles and small branches) and soil organic matter. Sequestration is the process by which forests remove carbon dioxide from the atmosphere, primarily via tree photosynthesis. A younger forest (10-60 years old) stores relatively little carbon, but it is likely at or near its peak sequestration rate. An older more mature forest (60+ years old) stores more carbon, with a gradually slowing sequestration rate. A mix of sequestration and storage found in multi-aged forests create a resilient carbon profile. Please keep in mind that using and harvesting local wood is an important part of climate mitigation and an important tool to improve the resiliency of our forests to climate change.

# Mapping

Attached to this report is a geo-referenced map that the landowner can use with mapping apps. This map shows the landowner where they are on the property. The landowner can also record tracks and waypoints on the property. To get map layers and to view maps, please visit <a href="CT ECO Home (cteco.uconn.edu">CT ECO Home (cteco.uconn.edu</a>). To get soil maps, and associated soil descriptions, please visit <a href="Web Soil Survey - Home (usda.gov">Web Soil Survey - Home (usda.gov</a>) and follow the instructions on the first page of this website. For instruction, please visit <a href="Tutorials">Tutorials</a> | Center for Land Use Education and Research (uconn.edu).



#### APPENDIX OF LATIN NAMES

#### **TREES**

Red Oak	Quercus rubra	Eastern Hemlock	Tsuga canadensis
Tulip Poplar	Lirodendron tulipifera	Quaking Aspen	Populus tremulodes
Red Maple	Acer rubrum	Black Gum	Nyssa sylvatica
Black Birch	Betula lenta	Yellow Birch	Betula alleghaniensis
White Oak	Quercus alba	Chestnut Oak	Quercus montana
Hickory	Carya Sp.	Black Cherry	Prunus serotina
Black Oak	Quercus velutina	White Pine	Pinus strobus
Scarlet Oak	Quercus coccinea	Sassafras	Sassafras albidum
American Beech	Fagus grandifolia	Paper Birch	Betula papyrifera
Sugar Maple	Acer saccharum	White Ash	Fraxinaus americana
Sycamore	Platanus occidentalis	Eastern Red Cedar	Juniperus virginiana
Black Locust	Robinia pseudoacacia	Basswood	Tilia americana
Cottonwood	Populus deltoides	Gray Birch	Betula populifolia
Slippery Elm	Ulmus rubra	Pin Cherry	Prunus pensylvanica

## NATIVE UNDERSTORY

Ironwood	Ostrya virginiana	Spicebush	Lindera benzoin
Musclewood	Carpinus caroliniana	Witch Hazel	Hamamelis virginiana
Serviceberry	Amelanchier Sp	Mountain Laurel	Kalmia latifolia
Lowbush blueberry	Vaccinium angustifolium	Huckleberry	Gaylussacia baccata
Highbush Blueberry	Vaccinium corymbosum	Sweet Pepperbush	Clethra alnifolia
Striped Maple	Acer pensylvanicum	Holly	Smilax
Hobblebush	Viburnum lantanoides	Greenbrier	Ilex

## **EXOTIC INVASIVES**

Barberry	Berberis Sp.	Burning Bush	Euonymus alatus
Multi-flora Rose	Rosa multiflora	Bittersweet	Celastrus orbiculatus
Privet	Ligustrum Sp	Honeysuckle	Lonicera Sp
Russian Olive	Elaeagnus angustifolia	Tree-of-Heaven	Ailanthus altissima