

---

# CONNWOOD FORESTERS, INC.

39 CHERRY HILL ROAD, PO BOX 150  
ROCKFALL, CONNECTICUT 06481  
(860) 349-9910  
**CONNWOOD.COM**

A FOREST OWNERS' COOPERATIVE ENGAGED SINCE 1945 IN THE STEWARDSHIP OF FORESTS FOR WOOD, WATER, WILDLIFE, RECREATION, AND AESTHETICS.

---

## FOREST STEWARDSHIP PLAN

### Town of Ridgefield Properties

324 FOREST ACRES

2011 - 2026



*Titicus River*

TABLE OF CONTENTS

GENERAL INFORMATION ..... 3

INTRODUCTION..... 5

REGIONAL CONTEXT ..... 6

SITE..... 7

WATER RESOURCES..... 9

NATURAL HISTORY ..... 11

FOREST DEVELOPMENT..... 12

FOREST HEALTH..... 13

WILDLIFE HABITAT ..... 15

GENERAL RECOMMENDATIONS..... 17

FOREST STAND DESCRIPTIONS AND RECOMMENDATIONS ..... 21

SUMMARY OF MANAGEMENT RECOMMENDATIONS..... 36

DEFINITIONS OF FORESTRY TERMS ..... 37

RECOMMENDED READINGS ..... 38



*Richardson Parking Lot*

# CONNWOOD FORESTERS, INC.

---

## GENERAL INFORMATION

---

**Date Prepared:** February 2011 (Fieldwork)

**Prepared By:** CONNWOOD FORESTERS, INC.

39 CHERRY HILL ROAD, P.O. BOX 150

ROCKFALL, CONNECTICUT 06481

(860 ) 349-9910

**Forester:** David Beers 860-384-1214 (cell)

CT Forester #207, Approved NYC Watershed Forester

**Property Owner:** Town of Ridgefield

**Address/Phone:** Town Hall Annex, 66 Prospect Street, Ridgefield CT 06877, 203-431-2713

**Contact:** Ben Oko, Chair of Ridgefield Conservation Commission

**Property Address:** 10 properties in Ridgefield, CT as follows from north to south

Property	Total Acres	Forest Acres	Riparian Acres
Sarah Bishop	32	32	27
High School	83	83	83
Richardson Park	30	12	3
Kiah's Brook	50	50	19
Old Sib	20	20	6
Levy Park	44	43	5
West Mountain Green	9	9	8
West Mountain Reed	27	27	8
West Mountain McManus	28	28	12
Colonial Heights	20	20	17
SUM	343	324	188



# CONNWOOD FORESTERS, INC.

Acreage: 343 acres from the surveyed boundaries

324 forested management acres in NYC Watershed

188 riparian management acres in NYC Watershed (188 Forested)

19 acres of fields in NYC Watershed that has a house on it

Survey Description of Properties: Please see the enclosed maps.

## Signatures:

Preparer: \_\_\_\_\_

Date: \_\_\_\_\_

David Beers of Connwood Foresters, Inc.

As the property owner, I have reviewed this management plan with my forester and I understand the contents and agree that it reflects my goals and intention for the management of these properties.

Property Owner: \_\_\_\_\_

Date: \_\_\_\_\_

Ben Oko



*Dave, Kitsy and Ben at Sarah Bishop*

---

## INTRODUCTION

---

Upon request by the Town of Ridgefield Conservation Commission, Connwood Foresters, Inc, has prepared a fifteen-year (2011-2026) forest stewardship plan for their properties in Ridgefield, CT. An inventory of these properties was conducted in February of 2011 in order to determine how to best implement the natural resource stewardship objectives of the Town of Ridgefield.

### **THE STEWARDSHIP OBJECTIVES ARE TO DEVELOP AND ENHANCE:**

- 1. Recreational opportunities**
- 2. Wildlife habitat**
- 3. Forest health and productivity**
- 4. Protection of wetland and watercourses**

Forests clean the air and water, protect the soil, provide homes for wildlife, and renew our spirit. Forestry uses scientific knowledge and methods to create a healthy forest and create a greater diversity and abundance of life throughout the landscape, while providing forest products and services to society.

This forest stewardship plan provides an organized and effective approach for the long-term protection and use of the forest resources. The plan also allows the Town of Ridgefield to become aware of the full detail and potential of their forest. An inventory of the forest's condition and your stewardship objectives provide the basis for the recommendations. Implementation of these recommendations will create forest improvements that will last well beyond our lifetime and will provide benefits beyond the property's borders.

The recommendations within this plan are designed to cover a fifteen-year management period. As management progresses on these properties it may become apparent that some recommendations are no longer valid and others become critical. Please note that while these management activities are spaced out over ten years, the order and timing are not carved in stone. Be assured that Connwood Foresters, Inc. is available to assist you with all of the management recommendations outlined in this plan.

Please refer to the maps while reading the plan. Throughout the following narrative, features are described which can be located on the maps. Using the maps will make the narrative much more meaningful. Please also refer to the 'Definitions of Forestry Terms' section to explain any terms that are unfamiliar or confusing.

---

## REGIONAL CONTEXT

---

These properties consist of 343 acres in western Connecticut and in the Fairfield Hills. Geologically, these properties are part of the Taconic Mountain chain that extends from West Point, NY to Burlington, VT. The properties are in the Town of Ridgefield, which is in Fairfield County. The Town of Ridgefield and three of the properties abut the NY border. The NY abutters are Sarah Bishop, Old Sib and Colonial Heights.

Ridgefield has maintained its rural character by actively preserving its farms and forests from development, as demonstrated by the town preserving these properties. It continues a rural tradition in an area of Connecticut that has lost some of its agrarian roots to housing development in the last few decades. This, coupled with its relatively close proximity to New York City and Danbury, has made Ridgefield a very desirable town to live in.

The conservation of parcels of open space like these is essential for Ridgefield to retain its character and appeal. The town does a great service for the community by willingly retaining this land as open space. These



properties are a key link in a vast network of uninterrupted forests and farms that weave through parts of Ridgefield. This network provides a large area of unfragmented habitat for a variety of wildlife and the network is critical to the health of the both the New York City water supply (Croton Reservoir system) and local water bodies.

A mix of residences and forestland surround these properties. The High School property and Richardson Park abut the Ridgefield High School. Kiah's Brook abuts Barlow Mountain Elementary School.

*Old Foundation at Kiah's Brook Property*

### Access

All of the properties have some road frontage on town roads. There are numerous trails throughout the properties.



---

## SITE

---

While most of the properties have elevations ranging from 600' to 800'; the high point on the properties is 970' at Old Sib and the low point is 500' at the Titicus River on the High School property.

The soils on the properties are mostly glacial till derived from bedrock composed of granite and schist. These soils originate from the glaciers that ground the bedrock into soil particles 10,000 years ago. These soils are therefore called glacial till. Glacial till has a blend of many mineral particle sizes (clay, silt, sand, and stones) that the glacier mixed up and deposited. These nutrient rich soils encourage vigorous tree growth.

Soils provide nutrients, moisture, and support for trees and other plant life in forest ecosystems. Soils help determine the types of trees and how well they grow on any given site. Soil quality varies greatly with topographic position. Upper slopes are dry and have thin, coarse soils whose nutrients have been leached to lower slopes. As a result, upper slopes typically have trees of shorter stature that grow slower. Mid-slopes are moderately moist and have moderate soil nutrition. Lower slopes are moist and nutrient rich and support the most vigorous tree growth. The base of slopes hold moisture and even though they are nutrient rich, they often support poor tree growth due to the abundance of water and therefore lack of oxygen in their soils. Species composition and growth reflect this topographic soil pattern.



*Both pictures of Levy Property*

## CONNWOOD FORESTERS, INC.

**Soil types** are very important to management activities by determining the types of vegetation that can grow in a given location and how well the soil can handle management activities. Please see soils map.

The Georgia and Armenia soil (**GA**) is found in stand 3. This type is classified as being very deep, moderately well drained silt loam soil formed in till. The hazard ratings for the soil are slight erosion and equipment limitations. Windthrow hazard is slight. This soil is a prime farmland soil.

The Charlton-Chatfield soil (**CC**) is found in stands 1, 4, 5, 6, 8 and 10-14. This type is classified as being a loam that is well drained to excessively drained soil. This soil tends to be shallow with areas of exposed bedrock. The hazard ratings for the soil are slight to moderate erosion and equipment limitations depending on slope. Windthrow hazard is slight.

The Hollis-Chatfield soil (**HC**) is found in stands 8, 9 and 10. This type is classified as being shallow to moderately deep, somewhat excessively drained soil formed in till. The hazard ratings for the soil are moderate-severe erosion/equipment limitations depending on slope. Windthrow hazard is moderate-severe.

The Ridgebury/Leicester/Whitman soil (**RLW**) is found in stands 4 and 10-14. This type is classified as being a loam that is poorly drained and very stony. The hazard ratings for the soil are slight erosion hazard and severe equipment limitations due to seasonal soil saturation. Windthrow hazard is severe.

The Saco soil (**S**) is found in stands 2, 3, 6, 7 and 12. This type is classified as being an alluvial loam that is very poorly drained. The hazard ratings for the soil are slight erosion hazard and severe equipment limitations due to seasonal soil saturation. Windthrow hazard is severe.

The Stockbridge soil (**St**) is found in stands 3 and 9. This type is classified as being rich loam that is well drained. The hazard ratings for the soil are slight erosion hazard and slight equipment limitations. Windthrow hazard is slight. This soil is a prime farmland soil.

The Timakwa and Natchaug soil (**TN**) is found in stands 10 and 12. This type is classified as being an alluvial loam that is very poorly drained. The hazard ratings for the soil are slight erosion hazard and severe equipment limitations due to seasonal soil saturation. Windthrow hazard is severe.

The Haven and Enfield soil (**HE**) is found in stand 7. This type is classified as being loam over top sand and gravel that is well drained. The hazard ratings for the soil are slight erosion hazard and slight equipment limitations. Windthrow hazard is slight. This soil is a prime farmland soil.

The Canton and Charlton soil (**CaC**) is found in stands 1, 3, 5, 10 and 11. This type is classified as being a loam that is well drained. The hazard ratings for the soil are slight erosion hazard and slight equipment limitations. Windthrow hazard is slight.

Rock Outcrop Hollis (**RH**) is found in stand 9 and 10. This type is classified as being a rocky fine sandy loam that is somewhat excessively drained and underlain by bedrock at 0-20 inches depth. The hazard ratings for the soil are slight erosion hazard and slight equipment limitations. Windthrow hazard is high.

The Paxton Montauk complex (**PM**) is found in stands 3 and 4. This type is classified as being a fine sandy loam that is well drained. The hazard ratings for the complex are slight to moderate erosion and equipment limitations depending on slope. Windthrow hazard is slight.

The Sutton complex (**S**) is found in stand 10. This type is classified as being a loam that is moderately well drained. The hazard ratings for the complex are slight erosion and equipment limitations depending on slope. Windthrow hazard is slight.

The Hinkley complex (**H**) is found in stands 2 and 14. This type is classified as being a sandy loam that is excessively drained. The hazard ratings for the complex are slight erosion and equipment limitations. Windthrow hazard is slight.

The Catden Freetown complex (**CaF**) is found in stand 12. This type is classified as being an organic muck that is very poorly drained. The hazard ratings for the soil are slight erosion hazard and severe equipment limitations due to seasonal soil saturation. Windthrow hazard is severe.

The Raypole complex (**R**) is found in stand 12. This type is classified as being a silt loam that is poorly drained. The hazard ratings for the complex are slight erosion hazard and severe equipment limitations due to seasonal soil saturation. Windthrow hazard is severe.

The Udorthents (**U**) are found in stands 3 and 7. They have severely disturbed upper soil layers due to filling and digging.



---

## WATER RESOURCES

---

All the properties drain into various wetlands and intermittent streams on or near the properties. The northern six properties all drain into the Titicus Reservoir and the southern four properties all drain into the Cross River Reservoir. All of this flow is in a southwesterly direction. Both reservoirs are part of the NYC Croton Reservoir system. Some of this water is used as water supply and some ends up in the Hudson River.

More specifically, water from the Sarah Bishop property flows into Mopus Brook that flows southerly until it drains into the Titicus River at the High School property. The Titicus River is a trout stream. Water from the Levy property drains into the Titicus River (aka Kiah's Brook), which then flows through the Kiah's Brook property and then through the High School property. Richardson Park also flows into the Titicus River via Mananasco Lake. Finally the Old Sib property drains into the Titicus River just prior to the NY border. The Titicus River flows into the Titicus Reservoir.

Water from all three West Mountain properties and the Colonia Heights property all flow into the same stream that then flows into Truesdale Lake. Truesdale Lake flows into the Waccabue River that flows into the Cross River and then into the Cross River Reservoir.

There are many acres of wetlands on the properties. The soils in these wetlands are poorly drained and are saturated for a significant portion of each year. Any sort of significant ground or vegetation disturbance within 100 feet of wetland soils, watercourses, and waterbodies requires a permit from Ridgefield's Inland Wetlands Commission.

Most of the wetland soils on the properties are occupied by forest. Forested wetlands prevent floods by slowing water runoff during storm periods, absorb and store sediment and nutrients that would otherwise harm downstream water bodies, store and recharge groundwater during dry periods, and provide excellent wildlife habitat. Activities in wetlands should be limited to when the water table has receded or has frozen over.

Sustaining water quality requires preventing erosion to keep the soil and its nutrients in the forest and out of the wetlands and watercourses. This means using erosion control methods on trails, roads, and as part of any forest activities to control the volume and velocity of water on unprotected soil. Such methods include installing water bars, spreading mulch, and spreading grass seed. In addition, at least 50% of the tree canopy cover should be retained within 100 feet of wetlands and watercourses and no trees should be removed within 20 feet of wetlands and watercourses. Such measures provide a protective buffer that can filter out damaging pollutants, nutrients, and sediments before reaching water resources.



*Reed Vernal Pool*

There are also four vernal pools on the properties: two at Sarah Bishop, one at Old Sib and one at Reed West Mountain. Vernal pools are depressions that fill up with water in the spring that have no stream outlet. Without an outlet, there are no predacious fish, which makes them perfect for amphibian eggs. Many amphibians rely on vernal pools exclusively for their egg and larval stages.

Please refer to Riparian Management section under General Recommendations.

---

## NATURAL HISTORY

---

About a century ago, almost all of these properties were fields used for either pasture (cattle and sheep), mowed hay, or tilled crops (corn, turnip, barley). The stonewalls and wire fences are evidence of the decades of agricultural use throughout the properties. Since the late 1800's, most of the fields have been abandoned and have gradually reverted to forest.

Along some of the property boundaries, within the forest, and between the fields there are stonewalls. Stonewalls served many purposes: a depository for fieldstone removed for tilling the land, a boundary marker, and a barrier to keep livestock out of the crops. Along many of these stonewalls are remnants of wire fencing embedded in the trees. The presence of barbed wire indicates that some of the land was farmed after the civil war (about the time barbed wire was invented).

Old-field trees are found throughout the forest (also called legacy trees). These are large, older trees, with large branches low on the stem. They began growing when the surrounding land was being farmed. This open-grown condition allowed the growth of their many large branches and spreading form. Many large old-field trees are along stonewalls. These trees served as a seed source for the present forest.

The steep slopes and stoniness of the soil probably made cultivating crops nearly impossible on some of the properties. These areas were used for pasture and growing fuelwood. Evidence of past cutting for fuelwood is the many oak clumps found growing today. When a young oak was cut for fuel, the stump sent up numerous sprouts that are the clumps of large oak trees we see today.

The gentler and less stony topography probably supported tilled crops or mowed hay. An indication of past tilling and mowing is an area with few, if any, surface rocks and a relatively smooth forest floor. The many small rocks in these areas were picked out of the fields each spring after winter frosts brought the rocks to the surface. A stonewall with many small rocks is indicative of past tilling. All or parts of stands 1-4, 7, 10 and 14 were likely tilled or hayed in the past.





---

## FOREST DEVELOPMENT

---

In order to fully understand how and why we manipulate forest development, we need to understand the natural process of forest development and growth. In other words, how a forest matures and changes over time.

As a forest ages, the trees grow to large sizes and in that process become fewer in number. A young forest of newly established seedlings may have more than 5,000 trees per acre. Twenty years later there are 500 trees per acre. After 50 years there are 200-300 six-inch diameter trees per acre, and in another fifty years there are 50 sawtimber trees per acre. After 100 years, approximately 97% of the original 5000 seedlings per acre have died leaving the remaining 3% of the trees to mature into the trees you see today.

The exact numbers vary from forest to forest, but the process of forest maturation is the same. What is happening here? The other 4,950 trees died and rotted away because they lost the competition for limited growing space. This process continues until the mature trees die from old age or disease, blow over, burn in a forest fire, or are cut. This process has occurred on your properties over the past 100+ years.

Each time a tree dies, the surrounding tree crowns expand to fill in the canopy opening. When a large tree dies, or a group of trees die, the opening is too large for the surrounding trees to fill. When this happens, the understory trees will fill the gap. Eventually all the trees we see today will die and be replaced by their progeny in the understory.

You can accelerate and improve upon forest development by selecting the trees that will dominate the stand. You may favor the healthiest and most vigorous trees. You may favor a tree for its value to wildlife, like red cedar. You may favor a tree for its products, like sugar maple for syrup. You may favor a tree for its longevity, like white oak. You can take much of the chance out of the development process by personally guiding how the forest develops, based on your objectives.

You can favor a tree's survival and vigor by opening up growing space around its crown. This allows the tree to expand its crown and receive more sunlight. In turn, this increases the tree's photosynthetic capability, which will make the tree more resistant to insect and disease problems and will make it grow faster.

In summary, forestry mimics and manipulates natural forest development to produce a healthier and more valuable forest. This scientific manipulation can produce wood products, improve wildlife habitat, create more recreational opportunities, and form a more attractive forest.



*Windthrow on Green Property*

---

## FOREST HEALTH

---



*Kiah's Brook Property*

Some of the birches have Nectria cankers, which is a common native affliction. Nectria is a fungal infection that causes bark deformities. It can kill the tree, but usually only causes stem deformities.

There are a few patches of hemlock on the properties that have been affected by the Hemlock Woolly Adelgid in the past. This is an exotic insect that sucks the sap from twigs, buds, and branches. It often can cause tree mortality, particularly when coupled with drought. While a few of the hemlocks are showing thin foliage from this affliction, most appear quite healthy. The 2003&4 winters were cold enough to kill over 90% of the Adelgids in this region. In addition, this winter's very cold weather likely struck another blow to this insect.

Some of the ash on the properties have died and are dying from an affliction referred to as white ash decline. White ash decline is a general term for white ashes that are unhealthy. Ash is very sensitive to environmental stress. Something

like drought or an early frost will often make the tree more vulnerable to attack by insects and diseases. There are a variety of fungi and microbes that will readily invade ash when given the chance. Ashes growing on wet soils are particularly vulnerable because their roots are shallow. When a drought does occur, such ashes are stressed because their shallow roots cannot access water.

The decline of the black locust can be attributed to early maturity and insect/disease attack. At the age of 30, black locust often begins to decline in health due to old age. Ubiquitous attacks by the locust borer and heart rot fungi often cause an early demise for this tree. The borer constructs feeding tunnels throughout the wood. These feeding tunnels serve as entry points for the heart rot fungus, which causes extensive interior decay. Another common pest is the locust leaf-miner, which feeds on leaf tissue, turning the tree's crown brown. In years of abundance, leaf-miners can defoliate trees, but they are generally not considered lethal.

The white pine weevil has infested some of the white pines. This insect eats the pine's leader or terminal shoot, such that the pine's lateral branches assume the terminal leadership. Each time a terminal shoot is eaten, a crook or bend in the pine is formed. If the infestation is severe, the pine becomes multiple stemmed to form what is called a cabbage pine. Some of the pine on the properties could be put in the cabbage



## CONNWOOD FORESTERS, INC.

category.

The opposite extremes of dry soils on hilltops and wet soils on hill bottoms are always a stress to trees. Hilltop soils are often shallow, dry and nutrient deficient. Hill bottom soils are often deep, wet and nutrient rich. Unfortunately wet soils are also low in oxygen that trumps their nutrient richness. Roots need oxygen to grow and absorb nutrients effectively. Saturated soils cause poor nutrient uptake to the roots and shallow rooting. Shallow rooting leads to trees prone to windthrow.

Very few seedlings were observed on most of the properties because the large deer herd eats any that germinate. Because the deer eat just about anything besides invasive species, a large deer herd encourages the proliferation of exotic invasive species (barberry) at the expense of the native flora.

I could find no evidence of past fires. The current town road system provides good access for vehicles to suppress any future forest fires throughout the properties.





---

## WILDLIFE HABITAT

---

The wildlife habitat on the properties is varied and provides the necessary food, cover, and water for many types of animals found in this region. Habitat variation includes deciduous trees, coniferous trees, rocky hilltops, ledges, forested wetlands, shrub wetlands, marshes, vernal pools, stream banks, fields, brush, younger trees and older trees. Hawks, turkey, fox and many deer were observed on the properties during this inventory.

Forested habitat is the dominant habitat on the properties. The large diversity of tree species ensures a greater variety of foods and therefore a larger diversity of animals. The diversity of tree sizes affords many different roosting, nesting, and feeding opportunities for birds. The wood thrush, for example, sings from the upper canopy, nests in the mid-story, and feeds on the ground.

Shrub and field habitat (early successional habitat) is present on parts of the properties. Such habitat is in decline regionally. In Connecticut, abandoned farmland grows through the field and shrub stage and into the forest stage over a ten to twenty year period. A significant portion of former farmland in Connecticut has already made this transition. Maintaining field and shrub habitat on these properties would help offset this regional decline and increase the diversity of bird species that frequent the properties. The bobolink and eastern meadowlark are two of the many birds that require this habitat. Cover and food are discussed in more detail below.

### Cover

Cover may be a hemlock tree for a screech owl (sleeping cover), a stonewall for a chipmunk (escape cover), or a dense patch of brush for a deer (resting cover). An animal's cover requirements are variable. Deer and grouse generally feed in relatively open areas of forests, but during a winter snowstorm they may seek refuge in a dense stand of conifers.

**Dead Wood/ Snags:** A critical part of the forest habitat is dead wood. Standing dead trees (snags) and dead wood on the ground serve important habitat benefits. Over one-quarter of the wildlife species that potentially inhabit these properties require dead wood, hollow trees, or rotten wood for some part of their life cycle. Dead wood provides cover, moisture, nest sites, and den sites.

Snags are standing dead trees that provide food and cover for over 85 wildlife species. Snags are important foraging sites for many species of birds and often serve as cavity trees when primary excavators, such as woodpeckers, initiate cavity development. Snags, especially those with good vantage points in clearing or along edges, are also used as perching sites for raptors, phoebes and other birds. A greater number of wildlife species will benefit from large snags (greater than 18 inches diameter) as opposed to numerous small ones. Large snags generally last longer and can be used by both large and small birds and mammals.

**Cavity or Den Trees:** Den trees are trees having the trunk or large limbs hollowed out by rot, with an opening to the outside. Cavities in trees of all sizes are essential to many species of birds and mammals. Blacked-capped chickadees and eastern bluebirds use cavities in stems less than 6 inches in diameter. Gray squirrels, screech owls, and various woodpeckers such as northern flickers use cavities in stems between 12 and 18 inches in diameter. Larger birds and mammals such as pileated woodpeckers, fishers, and raccoons require larger cavities in stems greater than 18 inches in diameter.

**Brush Piles:** A small portion of brush should be piled wherever possible and practical to provide additional wildlife cover. This can be combined with efforts to move woody debris away from walking trails and wildlife openings. Small mammals and some birds (wrens) use such piles for cover and bears use them to den. Such piles are particularly desirable if located near water or the edge of forest openings. Large wood and rocks form the base, which are covered by progressively smaller branches to form a mound that is about 6 feet high and 15 feet across.

## CONNWOOD FORESTERS, INC.

**Conifers:** Some conifers (pine, hemlock, and cedar) should always be retained to provide mammals and birds protection from harsh winter weather. They provide food and cover for resting, roosting, and nesting. They also help to moderate the effects of inclement weather. Forests that contain both conifer and deciduous trees generally contain more wildlife species than either one exclusively. Ruffed grouse, white-tailed deer, red and northern flying squirrels, red-breasted nuthatches, golden and ruby-crowned kinglets, solitary vireos, and bay-breasted warblers are examples of Connecticut wildlife species attracted to conifers. Cedar is particularly beneficial by providing excellent winter cover and food (blue cones) for birds and mammals.

**Perches:** Perching sites are most often found in old fields, pastures, roadsides, riparian corridors, and in stands with an overstory tree that clearly towers above all other forest vegetation. Supracanopy white pines, hemlocks, yellow poplars, and large roadside sugar maples are examples of high exposed perching sites. The exposed nature of these high perches provides excellent hunting and nesting sites for various raptors such as osprey, red-tailed hawks and kestrels that forage in non-forest cover types and open forests. Fences, utility lines, isolated deciduous shrubs, and woody sprout clumps less than 10 feet high can serve as low perches.

**Travel Lanes:** Fence rows, stonewalls, drainage ways surrounded by tall herbaceous vegetation and low woody growth make excellent travel lanes. Stonewalls provide structure to wildlife habitats and are especially valuable as travel lanes. For small mammals, such as chipmunks, stonewalls serve as an important cover for nearly all daily functions. For larger species, stonewalls provide protective cover along which to travel. Where stonewalls border fields or woodland roads lush herbaceous edges may be present.

### Food

Food, a source of energy for growth, maintenance of good health, and reproduction is essential to all wildlife species. All animals must have an adequate seasonal supply of nutritious foods provided by a variety of habitat types. The seasons and weather can be an important factor in determining food availability. Insects, grasses, forbs, mast (nuts), and fruits as well as other animals are important food sources for wildlife in Connecticut. The following are two major sources of food for wildlife in the forest.

**Hard Mast:** Hard mast is hard shelled seeds (nuts and acorns) that provide high caloric source of digestible lipids and carbohydrates need by most resident and migratory wildlife species. Native hard mast-producing trees include the oaks, hickories, and beeches. A variety of hard mast producing tree species will ensure food all year and are insurance against seed failure of any one species. White oak acorns are particularly valuable because of their high protein content.

**Fruit:** Fleshy (soft) fruits produced from a variety of native shrubs are an important food source for wildlife. Some common shrubs of high value are blueberry, huckleberry, common juniper, serviceberry, spicebush, winterberry, dogwoods, sumacs, and viburnum.

### . RARE THREATENED AND ENDANGERED SPECIES

The CT DEP Natural Diversity Database is currently being queried for a CT DEP NDDB report. Once this report is supplied by the CT DEP, it will be attached to this report.

---

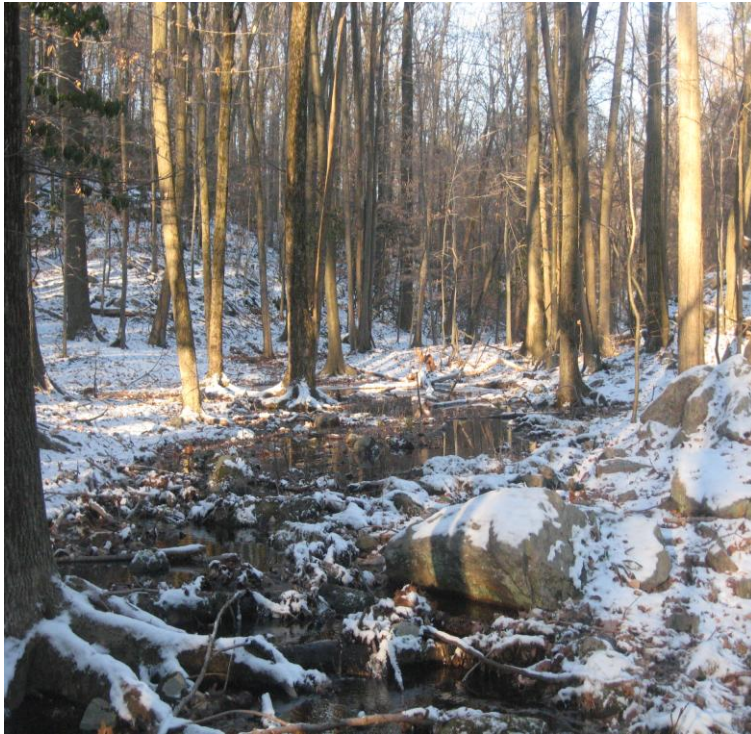
## GENERAL RECOMMENDATIONS

---

### RIPARIAN MANAGEMENT

As shown on the attached map, there are 188 acres of forest on and within 100 feet of wetlands and watercourses that is within the Croton watershed. The objective in these areas is to protect water quality.

Protecting water quality requires preventing erosion to keep the soil and its nutrients in the forest and out of the wetlands and watercourses. This means using erosion control methods on trails, roads, and as part of any forest activities to control the volume and velocity of water on unprotected soil. Such methods include installing water bars, spreading mulch, and spreading grass seed as needed. It means hardening trails with rocks and logs at wet or erosive areas to prevent soil disturbance.



In addition, at least 50% of the tree canopy cover should be retained within 100 feet of wetlands and watercourses and no trees should be removed within 20 feet of wetlands and watercourses. Such measures provide a protective buffer that can filter out damaging pollutants, nutrients, and sediments before reaching water resources. Such buffers also maintain shade to keep the water cool. Cooler water holds more oxygen and is inherently healthier for most aquatic life – especially trout in the Titicus River. Finally, these buffers provide a natural source of forest debris (logs, branches, leaves etc) that is an integral part of maintaining the biological/ecological health of wetlands.

*Old Sib Brook*

### INCENTIVES

Submitting this plan to WAC makes all of your properties eligible for further funding of the plan's recommendations. Please see attached overview of WAC cost-share programs.

### BOUNDARIES/ MAPS

Boundaries need to be well marked to protect the properties from trespass and encroachment. The standard for marking boundaries is the use of painted blazes. 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. The blazes should be given a new coat of paint every 5 years. Custom signs can also be hung about every 100 feet to communicate anything the landowner desires, like 'Nature Preserve' or 'No Hunting'. It is also recommended that understory vegetation and debris be cleared from boundary lines such that they can be easily traversed for inspection.

It appears that most of your boundaries have been well signed by the volunteers on the Conservation Commission.





*Boundary Sign*

#### **TRAILS**

Water bars and/or stairs need to be installed where the trails traverse significant slopes to prevent erosion. Water crossings need to be hardened with bridges or stepping stones to prevent erosion and wet feet. Any culverts need to be maintained and kept free of debris. All trails should be well marked with paint blazes that face both directions of travel and they should be kept clear of woody debris and growth. Currently, all of the trails are in excellent shape, with no erosion or maintenance problems.

#### **UNIQUE MARKET POTENTIAL**

While not a goal of the Ridgefield Conservation Commission, there is accessible and valuable sawtimber and cordwood timber growing on almost all of the properties that could be a future revenue source. West Mountain Green, Colonial Heights and the High School property are inaccessible to timber cutting due to streams and wetlands. The Sarah Bishop property has particularly valuable oak trees.

In addition to timber there is also the potential to tap the large sugar maple trees growing on the Kiah's Brook property in Stands 7 and 3. This could be done as a demonstration/educational project with the adjacent school. There are also a significant number of witch hazel shrubs growing in Stand 10 on the McManus properties. The hazel regrows after cutting it in the dormant season. It is chipped and the chips are sold to American Distilling in East Hampton, CT to make an ingredient in cosmetics and medications.



*Sarah Bishop Trail: Ben Oko, Dave Cronin, Kitsey Snow*

### **CULTURAL RESOURCES**

Whenever possible, the cultural resources (stonewalls and old foundations) of the properties should be protected, restored, and enjoyed. During forest activities, existing barways (stonewall openings) should be used and crossing the walls should be minimized. Effort needs to be taken to keep trees from falling on any of the walls and foundations and any debris can be removed from the walls and foundations in order to enjoy their aesthetics and maintain their legacy.

### **INVASIVES/VINES**

Unfortunately, there are some invasive species and vines on your properties. Some areas have more than others. Invasive species are typically from another part of the world such that when established here 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. Most of the invasives on your properties are likely located either in moist areas (wetlands) or near human activity (roads).

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 will keep the invasives under control, and perhaps kill them after a few years. The most effective control method is to cut the invasive and follow with an herbicide treatment during the growing season. An herbicide (Roundup) should be applied to the freshly cut stub and/or green foliage. For more information, visit the Invasive Plant Atlas of New England: [invasives.ecb.uconn.edu/ipane](http://invasives.ecb.uconn.edu/ipane) or [ct.nrcs.usda.gov](http://ct.nrcs.usda.gov).





*Kiah's Brook Vines*

#### **TREE REGENERATION**

Very few seedlings were observed on the properties for two reasons. First, the large deer herd eats any that germinates. Second, many invasive species occupy the understory growing space. Because the deer eat just about anything besides invasive species, a large deer herd encourages the proliferation of invasive species at the expense of the native flora. Hunting is the most effective method of preventing deer from devouring the native understory and young tree growth.

#### **AESTHETICS**

There are many opportunities to improve the beauty or aesthetics of the properties that fall outside of traditional landscaping. Two activities have already been mentioned and have benefits beyond aesthetics: vine and invasive species control. Most would agree that hanging vines and thorny invasive species have little beauty. Controlling vines and invasives creates a more park-like forest that appeals to most people because it is much easier to see through and walk through.

With the same methods discussed for vine and invasive species control, you can eliminate the understory of a forest to create a truly park-like setting. This may be desirable around a house, campsite, or picnic site. The improved visibility and lack of understory clutter is very attractive and enjoyable. Such clearing should remain isolated and small in scale (less than ten acres). The wholesale destruction of understory vegetation is detrimental to bird, mammal, and amphibian habitat. It also prevents the forest from renewing itself with young trees.

It is also aesthetically desirable to remove all of the woody debris on the ground. For ease of access, visibility, and orderliness this is done around trails, houses, campsites, and picnic sites. It also has the added benefit of decreasing the fire and insect infestation danger to manmade structures. Like removing the understory, removing woody debris should remain isolated and small in scale (less than ten acres). The wholesale removal of woody debris is detrimental to bird, mammal, and amphibian habitat. It also removes a significant amount of nutrients and carbon from the ecosystem. A better solution to unsightly woody debris, particularly after tree clearing, is to cut the debris close to the ground and perhaps make wildlife brush piles out of it.

---

## FOREST STAND DESCRIPTIONS AND RECOMMENDATIONS

---

Stands are separate natural communities that are distinct from each other. Dividing a property into stands makes it possible to logically describe the property. Keep in mind that while stands are distinct, stand boundaries are often indistinct, where one stand will meld into the next stand over the course of 100 to 200 feet. Even within a single stand, there is a tremendous amount of variation. Like most properties in Connecticut, your properties could be divided into an almost unlimited number of stands due to the tremendous variety forests inherently possess. To prevent analysis paralysis, a minimum stand size of three acres is usually adhered to.

The following stand descriptions are based on 73 measurement points (10 BAF) evenly distributed throughout the forest. At each measurement point, quantitative and qualitative data was recorded. An average of 12 trees was measured at each point (species, diameter, and height).

Each description begins with two graphs. The first shows the relative abundance of each species by percent. Not all species found in a stand will be included in this graph because some of the less common species did not fall within a measurement point. The second graph shows the relative abundance of different tree sizes based on the diameter of the tree measured at 4.5 feet off the ground.

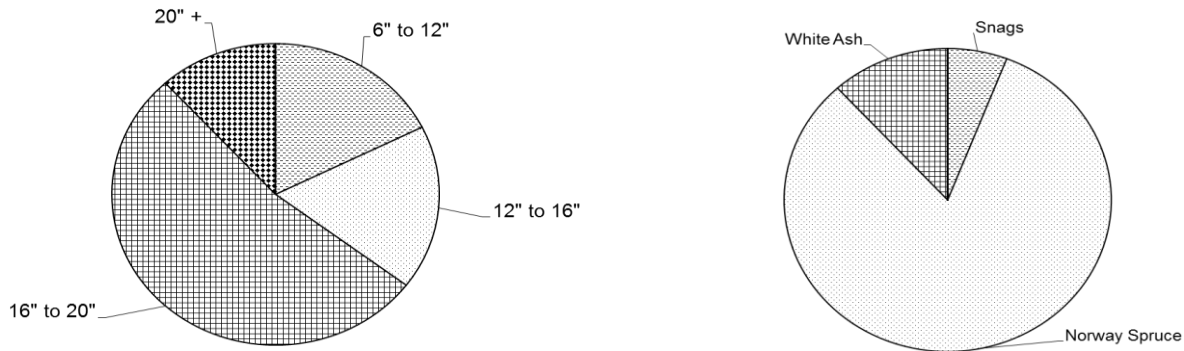
In addition to the following stands there are 19 acres of fields - with some scattered trees planted in them and growing naturally along old fencelines. There are 18 acres of fields at Richardson Park that include a house and an acre of fields at Levy Park. The fields should be mowed at least every three years to maintain their open/grassy condition for grassland bird habitat. Mowing should occur at a time of year that is will not disturb bird nesting.





# CONNWOOD FORESTERS, INC.

## STAND 1: SPRUCE (3 ACRES)



Other Species (not measured)	Black Cherry
Regeneration/Understory	No regeneration, open understory
Insect/Disease/Disturbance	Tight spacing between trees
Invasives/Vines	None
Canopy Closure	90%
Trees per Acre	149
Basal Area per Acre	170
Volume per Acre	21 MBF
AGS/UGS	8:1
History	Crop abandonment ~80 years ago and then planted to spruce

This stand consists of almost entirely Norway spruce trees growing on moist rich soils at Richardson Park. The understory is very open and shaded. Walking dogs thru this stand is quite popular. There are some dead and dying Norway spruces that pose a hazard to walkers. Barbara Hartman, the volunteer ranger for this park expressed this concern to me when I was doing the inventory of this stand.

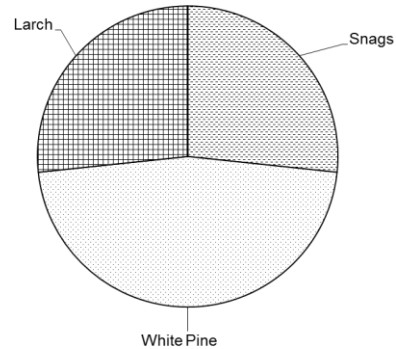
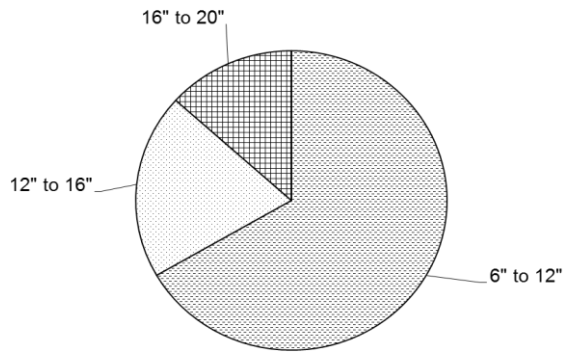
### Recommendations

Cut down the dead and dying trees that are within striking distance of the informal trails in this stand.



# CONNWOOD FORESTERS, INC.

## STAND 2: LARCH / WHITE PINE (5 ACRES)



Other Species (not measured)	Black Cherry and Black Oak
Regeneration/Understory	Few red maple and black cherry saplings
Insect/Disease/Disturbance	Minor white pine weevil
Invasives/Vines	Vine problem
Canopy Closure	80%
Trees per Acre	441
Basal Area per Acre	150
Volume per Acre	2 MBF
AGS/UGS	3:1
History	Crop abandonment ~80 years ago

This stand is located entirely on Kiah's Brook property. This stand consists of mostly poletimber pine and larch growing on rich moist soils. These trees were planted here 70-80 years ago. Unfortunately there are many vines growing into the main canopy and negatively affecting the health of this stand.

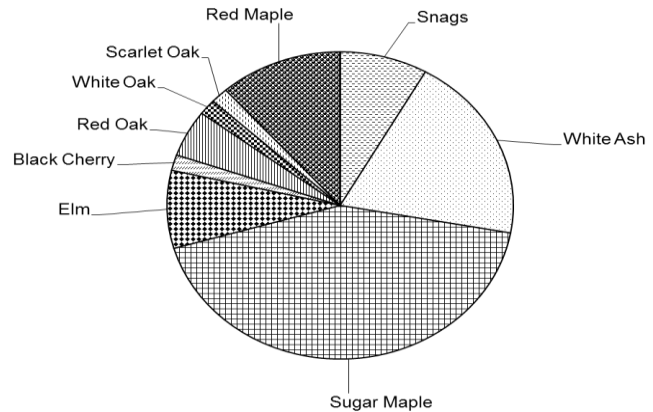
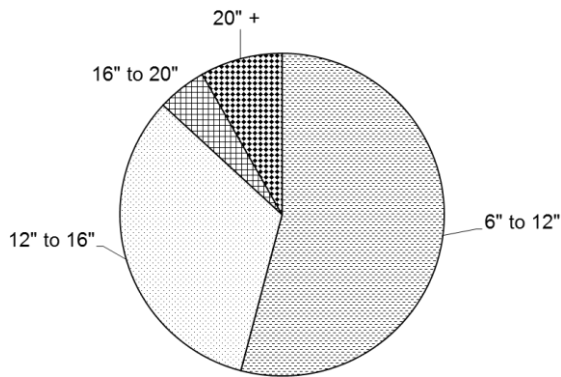
### Recommendations

Cut the vines.



# CONNWOOD FORESTERS, INC.

## STAND 3: MAPLE/ASH (27 ACRES)



Other Species (not measured)  
Regeneration/Understory  
Insect/Disease/Disturbance  
Invasives/Vines

Yellow Poplar, White Pine, Quaking Aspen and Black Birch  
Few sugar maple saplings  
Ash decline and mortality  
Few clumps of vines, some severely affecting trees  
Thick Barberry, not as bad on the west side of Kiah's Brook  
Multi-flora rose shrubs at Levy Park

Canopy Closure

80%

Trees per Acre

193

Basal Area per Acre

102

Volume per Acre

2 MBF

AGS/UGS

3:1

History

Pasture and crop abandonment ~70 years ago  
Some sugar maple old field trees along walls

22 acres of this stand are at Kiah's Brook property, with the remaining 5 acres at Levy Park. This stand consists of mostly poletimber sized trees, most of which are maples and ashes growing on rich moist soils. About a third of the ash trees are dead and another third are dying, hence the many snags. There are some impressively large oak trees growing along Kiah's Brook.

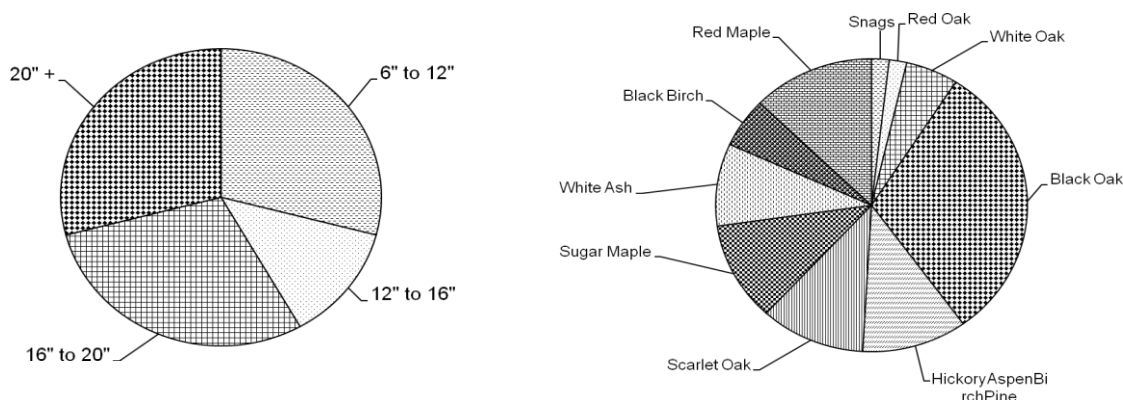
### Recommendations

Cut the vines and control the invasive barberry and rose – especially on the Kiah's Brook property



# CONNWOOD FORESTERS, INC.

## STAND 4: HARDWOOD MIX (19 ACRES)



Other Species (not measured)	Sassafras, Beech, Red Cedar, White Pine, Yellow Birch and Hemlock
Regeneration/Understory	Some beech and maple saplings Many shrubs, especially ironwood
Insect/Disease/Disturbance	Minor birch canker
Invasives/Vines	Few vine clumps and a few barberry shrubs
Canopy Closure	90%
Trees per Acre	128
Basal Area per Acre	110
Volume per Acre	7 MBF
AGS/UGS	3:2
History	Pasture/crop abandonment 50-100 years ago Many large old-field trees

11 acres of this stand are at Kiah's Brook property, with the remaining 8 acres at the Sarah Bishop property. This stand has a diverse mix of trees species and tree sizes growing on good rich hillside soils. There is a strip of large white pine trees that were planted many years at the Kiah's Brook property – see air photo. There is a small pond and wetland in this stand at the Sarah Bishop property.

### Recommendations

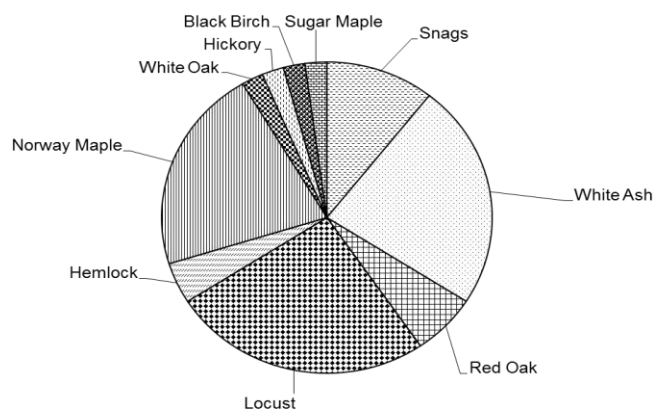
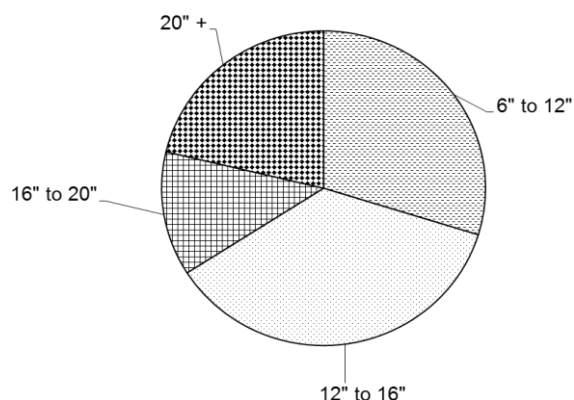
Cut vines

Release any healthy red cedar trees – especially at Sarah Bishop property.



# CONNWOOD FORESTERS, INC.

## STAND 5: RICHARDSON PARK (9 ACRES)



Other Species (not measured)  
Regeneration/Understory

Insect/Disease/Disturbance  
Invasives/Vines

Canopy Closure

Trees per Acre

Basal Area per Acre

Volume per Acre

AGS/UGS

History

Red maple, White Pine, Sycamore

Few red maple, hophornbeam and sugar maple saplings

Dense shrubs, especially Euonymus along lake

White Ash, Locust and Hemlock decline and mortality

Winged Euonymus shrubs and a few patches of multi-flora rose shrubs

Many bittersweet and grape vines along lake and along fields

90%

227

157

7 MBF

2:1

Pasture abandonment ~100 years ago



This stand is a diverse mix of trees growing on the hillsides of Richardson Park. Along Lake Mamansco are an impressive cliff and a disintegrating lake house.

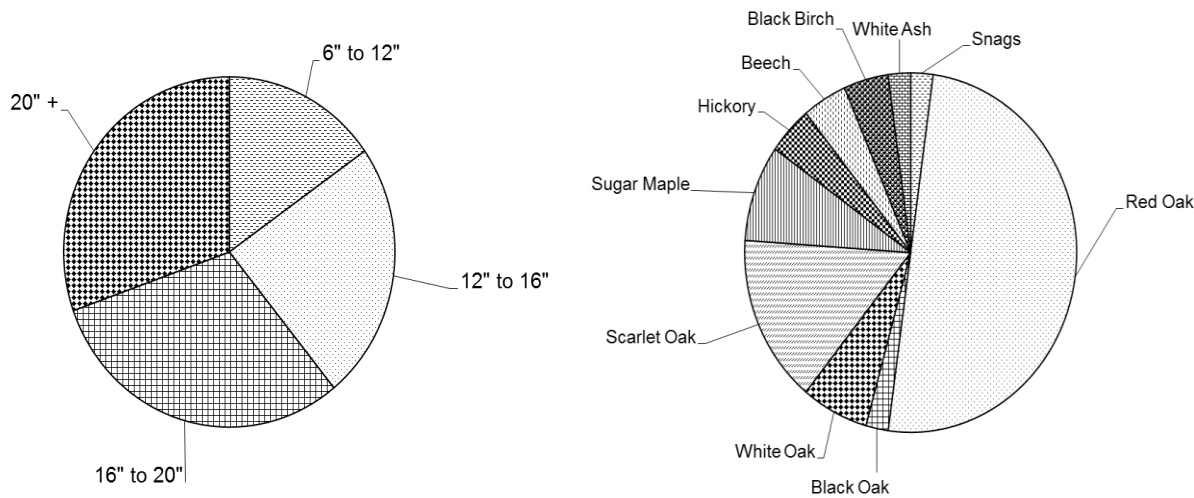
### Recommendations

Cut vines

*Cliff on Mamanasco Lake*

CONNWOOD FORESTERS, INC.

STAND 6: SARAH BISHOP OAK (8 ACRES)



Other Species (not measured)	Red maple
Regeneration/Understory	Few sugar maple, beech, hickory, poplar and birch saplings
	Open understory
Insect/Disease/Disturbance	None of significance
Invasives/Vines	None
Canopy Closure	90%
Trees per Acre	163
Basal Area per Acre	153
Volume per Acre	14 MBF
AGS/UGS	3:1
History	Pasture abandonment ~120 years ago

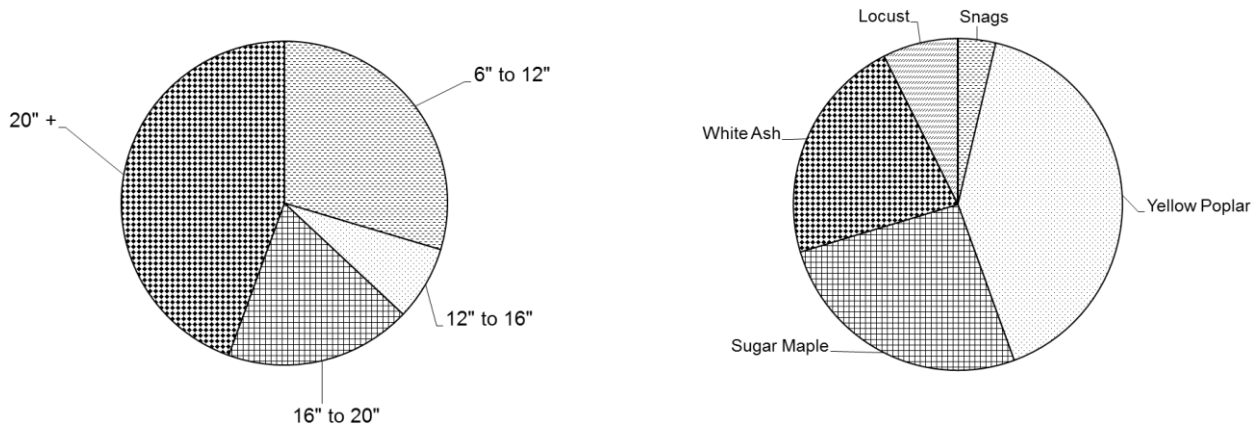
This stand consists of mostly large sawtimber red oak trees growing on rocky hillside soils. The oaks here are of excellent timber quality. There are two vernal pools within this stand.

**Recommendations:** Stand in awe of the timber



# CONNWOOD FORESTERS, INC.

## STAND 7: POPLAR (3 ACRES)



Other Species (not measured)	Black Cherry
Regeneration/Understory	Many sugar maple saplings
Insect/Disease/Disturbance	Ash decline and mortality
Invasives/Vines	Many Barberry shrubs and vine pockets
Canopy Closure	90%
Trees per Acre	197
Basal Area per Acre	135
Volume per Acre	11 MBF
AGS/UGS	3:1
History	Tilled cropland abandonment ~100 years ago

This stand consists of sawtimber yellow poplar trees growing on rich farmland soils alongside a wetland at the Kiah's Brook property. There are also a significant number of sugar maple and ash trees. Along the east edge of this stand is some brush along the school fields.

### Recommendations

Cut vines and control the invasive barberry

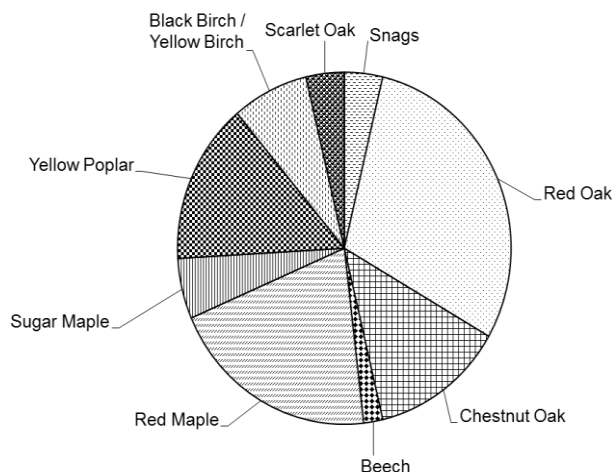
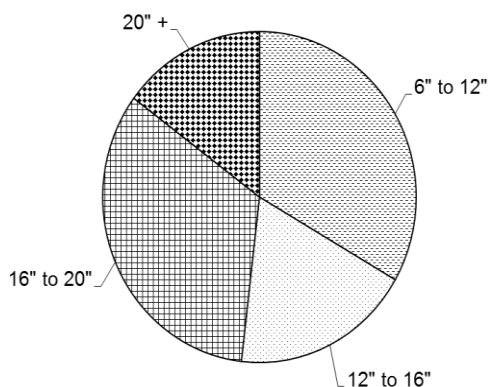


*a.k.a. Kiah's Brook Property*



# CONNWOOD FORESTERS, INC.

## STAND 8: OLD SIB (20 ACRES)



Other Species (not measured)  
Regeneration/Understory

Insect/Disease/Disturbance

Invasives/Vines

Canopy Closure

Trees per Acre

Basal Area per Acre

Volume per Acre

AGS/UGS

History

White Ash, Sassafras and White Oak

Few birch, maple and beech saplings

Patchy mountain laurel

Minor black birch canker

Few barberry in wet areas

90%

148

108

7.5 MBF

5:2

Pasture abandonment ~100 years ago



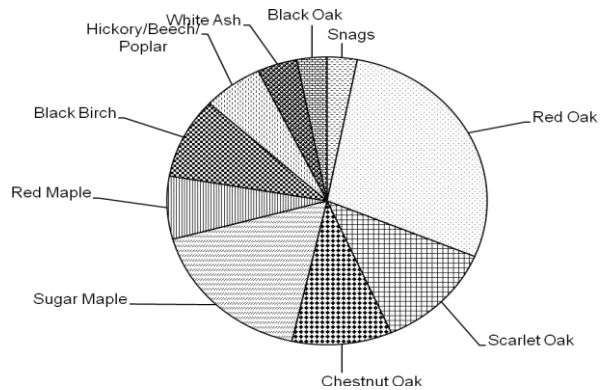
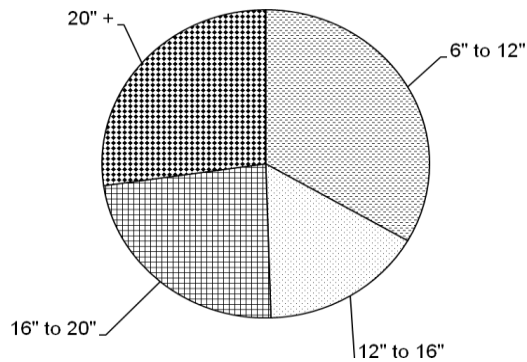
This stand consists of mostly sawtimber trees, of a wide species variety, growing on both rocky knolls and wetter lowlands. Within this stand are a small vernal pool and a narrow ROW clearing for an underground AT&T Cable.

### Recommendations

None

# CONNWOOD FORESTERS, INC.

## STAND 9: LEVY OAK (38 ACRES)



Other Species (not measured)  
Regeneration/Understory

Insect/Disease/Disturbance  
Invasives/Vines  
Canopy Closure

Trees per Acre  
Basal Area per Acre  
Volume per Acre  
AGS/UGS  
History

Black Cherry and Red Cedar  
Few birch, maple and beech saplings  
Open understory  
Moderate birch canker, severe in spots  
Some grape vines in patches  
90%  
154  
110  
7 MBF  
3:1  
Pasture abandonment >100 years ago

This stand is dominated by oak sawtimber trees, with variable growing conditions that range from dry barren hilltops to moist rich lowlands. There are some very steep and ledgey hillsides in this stand. I saw a red fox here when doing the inventory.

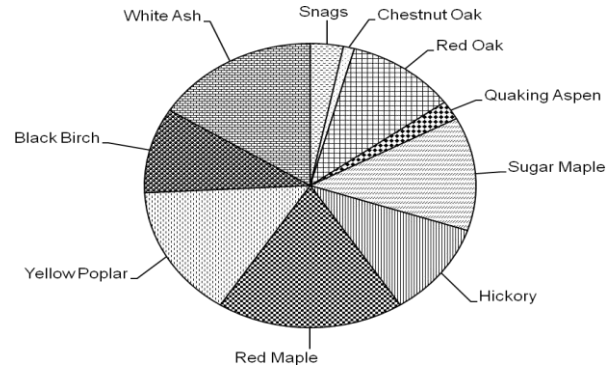
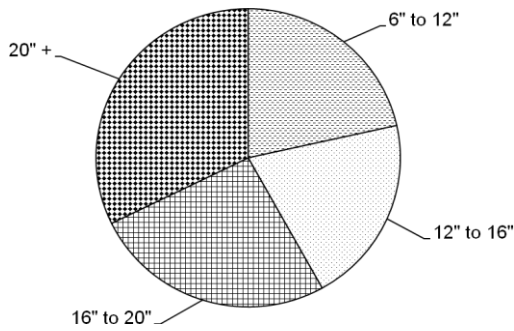


### Recommendations

Cut vines

# CONNWOOD FORESTERS, INC.

## STAND 10: WEST MOUNTAIN HARDWOOD (35 ACRES)



Other Species (not measured)	Beech, Sassafras, Yellow Birch, White Oak, Red Cedar, Hemlock, Cherry, Black Oak; Planted apple tree and Norway spruce tree at Green property
Regeneration/Understory	Few maple, birch and beech saplings Some witch hazel shrubs
Insect/Disease/Disturbance	Moderate black birch canker Moderate white ash decline
Invasives/Vines	Multi-flora rose near road Barberry in wet areas
Canopy Closure	90%
Trees per Acre	132
Basal Area per Acre	103
Volume per Acre	7 MBF
AGS/UGS	2:1
History	Pasture and cropland abandonment over 100 years ago Many old field trees

This stand is found in all three West Mountain properties. It is comprised of a variety of trees of mostly sawtimber size growing on moist rich soils. Many of the poplar and ash trees are quite large (30"-40" diameter). On the Reed property there is a small vernal pool. On the McManus property there is an acre of shrub swamp on the southern edge of the stand.

### Recommendations

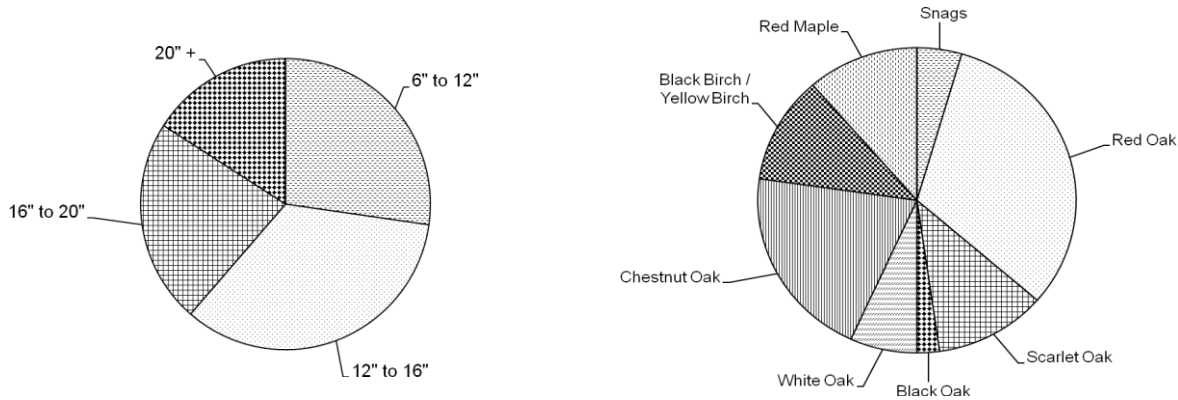
Control the invasive barberry and rose – especially on the McManus property





# CONNWOOD FORESTERS, INC.

## STAND 11: WEST MOUNTAIN OAK (16 ACRES)



Other Species (not measured)	Beech and Hickory
Regeneration/Understory	Few maple, birch and beech saplings Patch laurel and witch hazel
Insect/Disease/Disturbance	Minor birch canker
Invasives/Vines	None of significance
Canopy Closure	90%
Trees per Acre	134
Basal Area per Acre	88
Volume per Acre	5 MBF
AGS/UGS	5:3
History	Pasture abandonment >100 years ago Some 20+ year old firewood stumps on the Green property

This stand is found in all three West Mountain properties. It is comprised of mostly oak sawtimber trees growing on rocky hillside soils whose richness and moistness varies with topographic position.

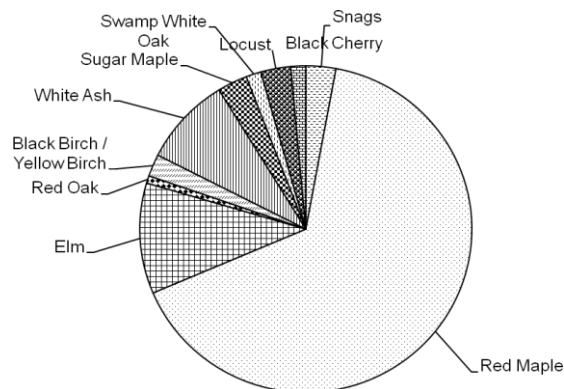
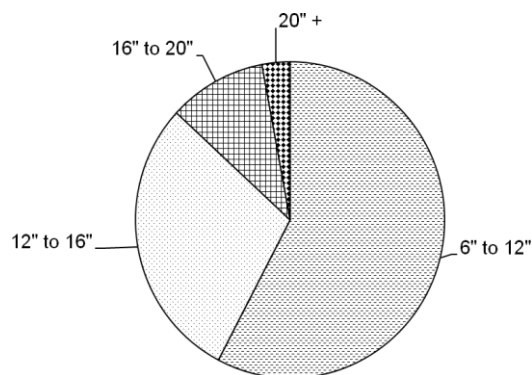
### Recommendations

None



# CONNWOOD FORESTERS, INC.

## STAND 12: SWAMP (129 ACRES)



Other Species (not measured)  
Regeneration/Understory

Insect/Disease/Disturbance  
Invasives/Vines

Canopy Closure

Trees per Acre

Basal Area per Acre

Volume per Acre

AGS/UGS

History

Hickory, White Oak, Yellow Poplar, Beech, Red Cedar and Black Tupelo

Few maple and birch saplings

Wetland shrubs and grasses

Periodic flooding

Patches of barberry and multi-flora rose

A few vine areas

Two patches of Phragmites along high school

50-90%

161

72

1 MBF

3:4

Perhaps some pasture over 100 years ago

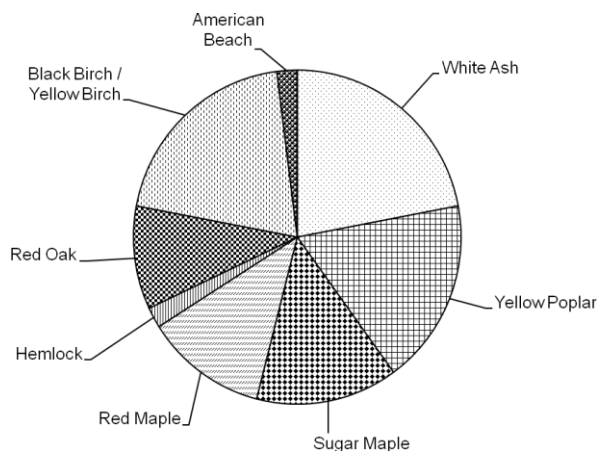
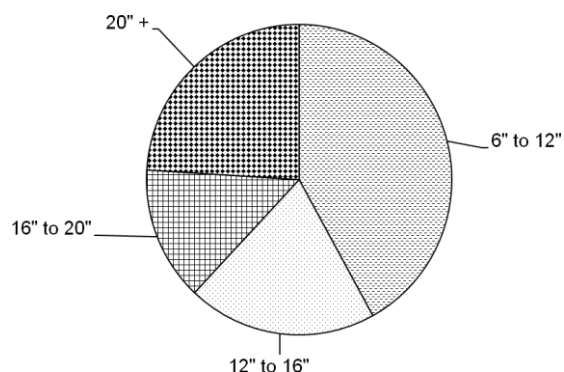
This stand exists in varying degrees on all of the properties. It is mostly a red maple swamp of varying degrees of wetness that range from moist lowlands to flooded hummocks and grassy marshland with light tree cover. There are, of course, some dry pockets of land within this stand. One of those dry pockets is a 2-acre area of locust trees with thick barberry and vines growing along the edge of the swamp at the high school.

### Recommendations

None

# CONNWOOD FORESTERS, INC.

## STAND 13: COLONIAL HEIGHTS (9 ACRES)



Other Species (not measured)  
Regeneration/Understory

Insect/Disease/Disturbance

Invasives/Vines

Canopy Closure

Trees per Acre

Basal Area per Acre

Volume per Acre

AGS/UGS

History

Hickory, Scarlet Oak and White Oak  
Few maple, beech and hemlock saplings  
Thick wetland shrubs along the abutting wetlands  
Moderate white ash decline  
Minor black birch decline  
Patches of barberry where wet  
90%  
187  
125  
7 MBF  
3:1  
Pasture abandonment >100 years ago

This stand is comprised of a mix of tree sizes and species growing on hillside soils whose richness and moistness varies with topographic position.

The southern tip of this stand includes an acre of recently abandoned field that has grown into thick 10' tall Russian olive shrubs mixed with multi-flora rose shrubs and bittersweet vines. Within the shrubs is a patch of planted 20' tall Norway spruce saplings.

### Recommendations

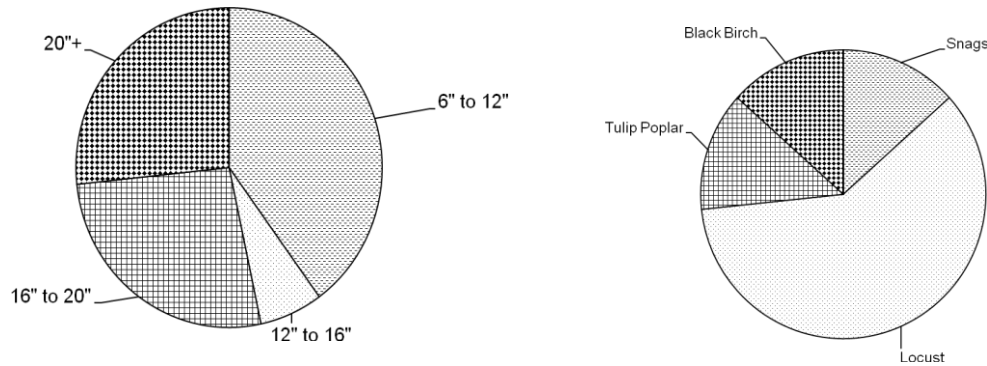
Mulch the olive field and brushcut at least every 3 years to maintain as early successional habitat.





# CONNWOOD FORESTERS, INC.

## STAND 14: LOCUST (3 ACRES)



Other Species (not measured)	Sugar Maple and Red Maple
Regeneration/Understory	Few maple and birch saplings
Insect/Disease/Disturbance	Locust decline
Invasives/Vines	Many vines and barberry shrubs
Canopy Closure	90%
Trees per Acre	173
Basal Area per Acre	150
Volume per Acre	2 MBF (Poplar)
AGS/UGS	1:2
History	Area of soil excavation 30-50 years ago -cropland abandonment before excavation

This stand consists of sawtimber-sized locust trees growing in a formerly excavated area at the McManus property. There are also a significant number of maple and birch trees. Along the edges of the stand are some massive yellow poplar trees.

### Recommendations

Cut vines and control the invasive barberry



---

## SUMMARY OF MANAGEMENT RECOMMENDATIONS

---

The following table summarizes recommended forest management activities for the town properties in Ridgefield, CT for the management period 2011 to 2026. Active management of one's land is an exciting and dynamic process. Adjustments, updates, and revisions may be necessary over time due to unforeseen changes in environmental conditions (disease, insects, fire, and storm damage) or changes in the stated objectives. The extent to which these recommendations are followed is totally up to the town.

- Mow the fields at least every 3 years\*
- Cut the hazard trees in Stand 1 \*
- Cut the vines in Stands 2-5, 7, 9 and 14\*
- Control the invasive barberry and rose in Stands 3, 7, 10 and 14 (Kiah's Brook and McManus)\*
- Mulch the olive field and brushcut at least every 3 years in Stand 13 \*
- Release healthy red cedar trees from competition in Stand 4\*
- Build Wildlife observation blinds at the two school properties (High School and Kiah's Brook) as school projects for the students to both build and use\*
- Reinventor the forest and update the forest stewardship plan in 2026\*

\* Funding may be available through NYC WAC.



*McManus Rocks*

# CONNWOOD FORESTERS, INC.

---

## DEFINITIONS OF FORESTRY TERMS

---

**AGS:** Acceptable Growing Stock: Trees desirable for long-term growth/**UGS:** Undesirable Growing Stock

**Basal Area:** The area in square feet of the cross section of a tree at DBH

**Boardfoot:** Wood used for lumber that measures 1"x 1"x 12" (**MBF** = 1000 boardfeet)

**Canopy:** Where the leaves and upper branches in a tree are located

**CTT:** Crop Tree Thinning: Culturing individual trees with the greatest potential to produce specific benefits

**DBH:** Diameter at Breast Height: diameter of a tree at 4.5' above the ground

**Girdling:** Creates a cut area around the circumference of the tree that blocks the flow of food

**Habitat:** The foods, water, cover, and living space wildlife needs for survival

**Hardwood:** Broad-leaved trees that usually shed their leaves in the fall

**Intermittent Stream:** A small stream that usually does not flow all year

**Mast:** Tree seeds that supply valuable wildlife nutrition; Hard: acorns, nuts; Soft: berries

**Overstory:** Upper canopy of treetops

**Pole or Poletimber:** Trees having a DBH of 6 to 12 inches

**Regeneration:** New young trees

**Release:** Remove competition such that the released tree has more sunlight and growing space

**Sapling:** Trees having a DBH of 1 to 6 inches

**Sawtimber or Sawlog:** Trees having a DBH greater than 12 inches

**Seedling:** Trees having a DBH less than 1 inch

**Silviculture:** The art, science, and practice of producing and tending a forest

**Snag:** A dead standing tree

**Stand:** Separate and distinct natural community

**Understory:** Vegetation layer below the upper canopy of treetops

**TSI:** Precommercial thinning where trees that have little or no value are killed or removed

**Water Bar:** Ditches or logs placed at an angle to the slope to divert water from its downhill path



---

## RECOMMENDED READINGS

---

### A Sierra Club Naturalist's Guide to Southern New England by Neil Jorgensen

This is the most comprehensive guide to the natural history of southern New England. This book teaches you how to read the landscape by introducing all the natural communities of southern New England.

### Audubon Field Guide to New England

An excellent reference for identifying most natural features in New England. This includes rocks, mammals, reptiles, amphibians, birds, trees, plants, and much more.

### Audubon Field Guide to North American Trees – Eastern Region

The authority for ID of eastern US trees. Fantastic color photos of all tree parts.

### Connecticut Woodlands by the Connecticut Forest and Park Association: [cfpa.org](http://cfpa.org)

This is the periodical and organization for anything to do with forests in Connecticut. It is published quarterly for CFPA members.

### Forest Trees of Southern New England by Connecticut Forest and Park Association: [cfpa.org](http://cfpa.org)

Concise ID characteristics of CT trees. Drawings of twigs, seeds, and leaves.

### New England's Landscape by Neil Jorgensen

Concise overview of the geology and vegetation of New England.

### New England Forests Through Time by Foster and O'Keefe

A wonderful coffee table book that will interest even the most citified among us. Vivid pictures and flowing prose about the history of New England's forests.

### Northern Woodlands magazine: [northernwoodlands.com](http://northernwoodlands.com)

This quarterly has anything and everything to do with nature, conservation, forestry, and wildlife in New England. A professional magazine of the caliber of National Geographic.

### Reading the Forested Landscape by Tom Wessels

A total description of how every acre of New England's forests became the way they are. Read this book before any others on this list!

### Sermons in Stone by Susan Allport

The author presents a fascinating history of New England's stonewalls – who built them, when, why, and how. Almost by mistake, she presents a unique look at New England's natural history.

### The Face of Connecticut

The complete story of Connecticut's geology, geography, and man's interaction with both.

### The Trees in my Forest by Bernd Heinrich

This is a biological look at the forest. It is excellent for understanding how trees grow, how they interact with each other, and how they interact with the land.

### Working with Your Woodland by Beattie, Thompson, and Levine

Anyone interested in taking an active role in forest management should read this book. It summarizes four years of forestry school into an easy to read book.