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

FOREST STEWARDSHIP PLAN

TOWN OF SOMERS

CAMP AYA-PO

184 ACRES IN SOMERS CT
2016 – 2026

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GENERAL INFORMATION

Date Prepared: March 2016 (Fieldwork)

Prepared By: CONNWOOD FORESTERS, INC.
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Forester: David Beers 860-384-1214 (cell)
CT Forester #207 NRCS TSP 10-6763

Property Owner: Town of Somers
Address: 600 Main Street, Somers CT 06071
Contact Person: Todd Rolland, Town of Tree Warden and Director of Public Works
Phone: 860-763-8238
Email: trolland@somersct.gov
Property Address: 25 Camp Road, Somers CT 06071
Map 12 Lot 82 146.94 acres north of Camp Road
Map 12 Lot 65 36.93 acres south of Camp Road
Latitude 42.01815 Longitude -72.40622
Total Acreage: 184 acres

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 this property.

Property Owner: _____ Date: _____

INTRODUCTION

Upon request by the Town of Somers, Connwood Foresters Inc, has prepared a ten-year (2016-2026) forest stewardship plan for the Camp AYA-PO in Somers, CT. An inventory of this property was conducted in March of 2016 in order to determine how to best implement the natural resource stewardship objectives of the landowner.

THE STEWARDSHIP OBJECTIVES ARE (NOT IN ORDER OF IMPORTANCE):

1. Engage in sound, sustainable land stewardship
2. Provide recreational opportunities
3. Conserve soil and water resources
4. Maintain sensitive areas as reserves
5. Maintain and improve forest and ecosystem health
6. Protect and enhance wildlife habitat

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 landowner 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 ten-year management period. As management progresses on this property 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.

Resource concerns observed are:

1) Growth non-native invasive exotic vegetation

REGIONAL CONTEXT

The property consists of 184 acres in north central Connecticut that is just to the east of the Connecticut River Valley. It is in the Town of Somers, which is at the northwestern corner of Tolland County. The property includes Hurds Lake and Perkins Mountain.

The property has road frontage on Camp Road, Mountain Road, and Stafford Road. The main access road to the camp is off Camp Road. Private property and town roads surround the property. Most of the area is occupied by low-density housing, forests and fields. The section of the property to the southeast of Camp Road is surrounded by houses. Across the street from the southwest corner of the property is a land trust preserve (Northern Connecticut Land Trust Stevenson Woodlands). The hiking trail connects to this preserve.

Somers has maintained its rural character and it continues an agrarian tradition. Traditional rural land uses are being crowded by additional housing development each year. Its relatively close proximity to Hartford and Springfield has made Somers a very desirable town to live in.

The conservation of large parcels of open space like this one is essential for Somers to retain its character and appeal. The Town of Somers does a great service for the community by willingly retaining this land as open space. This property is a key link in a network of uninterrupted forests and farms in this part of Somers.

Access / Trails

There are two drivable dirt woods roads that are in good condition. Both are used as hiking trails. One goes up a hill to access the camp buildings and heads out to a turnaround area where the log landing was located. The other heads out along the west shore of Hurds Lake and ends at a northern gate on Stafford Road.

The current hiking trail system is in excellent condition and there are plans to expand the trail system. The attached trail map shows the hiking trail system (current and proposed).

I noticed some informal mountain bike trails that had yellow tape markers.

Hilltop Trail

SITE

The property's elevation rises roughly 300 feet, from a low of 680 feet above sea level where the outlet to Hurds Lake leaves the property on Mountain Road, to a high of 980 feet at the top of Perkins Mountain. The topography ranges from extremely steep to flat, with the land sloping in all directions.

The soils on the property are mostly glacial till derived from bedrock composed of granitic gneiss 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. 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 bases 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.

Soil types for Forest: Please refer to the attached web soil survey report.

Map	Name	Texture	Hydric	Farmland	Stands
3	Ridgebury,Leicester,Whitman	Stony fine sandy loam	Yes		1,8
45	Woodbridge	Fine sandy loam		Yes	7
46	Woodbridge	Stony fine sandy loam			2,7,9
61, 62	Canton and Charlton	Stony fine sandy loam			1,4,5,8,9
73	Charlton Chatfield	Rocky fine sandy loam			1,3,5,9
75	Hollis Chatfield	Fine sandy loam, Rock outcrops			1,5
85	Paxton and Montauk	Stony fine sandy loam			1,2,6,8
306	Udorthents	Urban Soil			9

*Soil not listed if it is an insignificant component of forest (<1 acre)

View down to Lake from Perkins Mtn

WATER RESOURCES

The eastern two-thirds of the property drains into Hurds Lake and the corresponding outlet to Hurds Lake. The western third drains into a feeder stream of Worthington Pond. Both watersheds end up in Gillettes Brook. Gillettes Brook flows into the Scantic River, which flows into the Connecticut River and then to Long Island Sound. In addition to Hurds Lake there is an inlet and outlet stream to Hurds lake and associated wetlands.

There are wetlands and watercourses on the property. The soils in the 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 each town's Inland Wetlands Commission.

The 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 or near 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.

Please refer to 'Water Quality' section under General Recommendations.

Hurds Lake & Perkins Mtn

HISTORY

About a century ago, almost all of this property was fields used for either pasture (cattle and sheep), mowed hay, or tilled crops (Stand 7). The numerous stonewalls and wire fences are evidence of the decades of agricultural use throughout the property. Since the late 1800's, most of the fields have been abandoned and have gradually reverted to forest or were planted with conifers (Stand 6).

The property has many 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 stonewalls and wire fences are evidence of the decades of agricultural use (livestock pasture) throughout the property.

Along the steep hillside in Stand 5 are the remains of an old dugway. This was an oxcart path that was dug into the hillside to likely remove firewood. The lower side of this path has some stonework to make the path level.

The steep slopes and stoniness of the soil probably made cultivating crops nearly impossible on the majority of the property (Stands 1,3,4,5,9). This area was used for pasture and growing fuelwood over 100 years ago. Evidence of past cutting for fuelwood is the many oak clumps found on the steep slopes. 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.

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 and wire fences. These trees served as a seed source for the present forest.

The camp itself was founded by the Young Women's Christian Association (YWCA) in 1923. It served about 1,100 campers each summer. In 1988, the southern half of Stand 1 had a timber harvest and in 1990 the northern half of Stand 1 had a timber harvest. In 1993, a timber harvest occurred in Stand 2, along with a salvage clearing of dying red pine in Stand 6. In 2004, the State paid for a Forest Stewardship plan for the property. In 2005, all of Stand 1 and 2 had a timber harvest that removed 121,000 board feet of lumber and 73 cords of firewood. This harvest brought in revenue to the YWCA of $36,355. Also in 2005, all of the property boundaries were located and marked with both yellow paint blazes and signs. In 2006, Stands 3&4 were thinned by cutting down small cull trees. This pre-commercial thinning work was funded by a State grant.

The Town of Somers purchased the property on May 30, 2014, with grant assistance from the Open Space and Watershed Land Acquisitions Program administered through the State of Connecticut Department of Energy and Environmental Protection. This same state agency holds a conservation easement on the property.

Dugway

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 property 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.

Gridled tree in Stand 3

FOREST HEALTH

Some of the tree crowns show crown loss from snowstorm Alfred, which occurred on 10/29/11 and dumped an unusually early wet heavy snow on trees that had not lost their leaves yet. This lead to severe tree damage in parts of Connecticut, including here.

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

There are a few patches of hemlock on the property that have been affected by the Hemlock Wooly Adelgid. This is an exotic insect that sucks the sap from twigs, buds, and branches. It often causes tree mortality, particularly when coupled with drought. While some of the hemlocks have thin foliage from this affliction, others appear quite healthy.

Some of the ash trees have crown dieback from an affliction referred to as white ash decline. This has also killed some of the ash trees. 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. Fortunately, ash is a relatively minor component of this forest. See also the section in the General Recommendations about the Emerald Ash Borer

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. While a few of the pine could be put in the cabbage category, most of the pines on the property are straight and healthy.

Red pine has been a popular tree to plant because it is fast growing. A few acres of red pine were planted in Stand 6 about 50 years ago. Unfortunately, these pines succumbed to the red pine scale and were salvaged in 1993. The scale sucks the sap from twigs and branches, which causes the needles to turn yellow and then brown. Thought to be an exotic insect from the orient, this scale has infested red pines that have been planted south of their natural range. Because Connecticut is not within red pine's natural range, the scale has caused extensive mortality of red pine in Connecticut.

I could find no evidence of past fires. The current trail system provides good access for all terrain vehicles to suppress any future forest fires throughout the property.

Finally, I noticed some Gypsy Moth egg masses on a few of the oaks. Outbreaks of this tree-defoliating European moth occur periodically in different parts of Connecticut. Its larvae caterpillar will defoliate entire oak trees when outbreaks are severe. Hopefully that will not be the case this coming summer.

WILDLIFE HABITAT

The wildlife habitat on the property 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, fields, shrubland or brush, rocky hilltops, forested wetlands, lakeshore, stream banks, younger trees, and older trees.

Overall the forest is diverse in both tree species and tree sizes. 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 is present on about 11 acres. 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 this property would help offset this regional decline and increase the diversity of bird species that frequent the property. The bobolink and eastern meadowlark are two of the many birds that require this habitat.

Northeastern Field in Stand 7

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 this property 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.

On average, each acre of forest should have at least 6 snags per acre, half of which should have diameters over 16". As you can see by this table, all of the stands are lacking in large snags and a few are deficient on total snags.

Stand	Snags/Ac	16"+/Ac
1	13	1
2	0	0
3	9	2
4	1	1

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.

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 that 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 boarder 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 needed 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 Specie

According to the CT DEEP Natural Diversity Database (NDDB) map, there are threatened species within the vicinity of this forest. An NDDB report will be forwarded when it is received.

Small Field in Stand 7

GENERAL RECOMMENDATIONS

ACCESS

Maintaining good access roads/trails into the forest increases the value of the timber, aides in wildfire control, prevents trespass, aides in property maintenance, prevents erosion, and improves forest recreation opportunities. Because wildfires can result in soil erosion, roads are critical for the use of fire control equipment. Access roads also can act as barriers to the spread of fires. Roads and trails are useful for surveillance purposes so that the property can be patrolled and unauthorized persons removed.

Proper maintenance of roads and trails is critical to preventing erosion. Basically, maintenance means keeping water off of the trails, with the trail surface remaining intact. Methods include water bars, culverts, drainage ditches, crowning, seeding (grass), and gravelling. Brush and debris must also be cleared from trails for them to be usable.

All of the roads and trails are in good shape.

BOUNDARIES/ MAPS

Boundaries need to be well marked to protect the property 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. It is also recommended that understory vegetation and debris be cleared from boundary lines such that they can be easily traversed for inspection.

The boundaries are marked with yellow paint blazes and YWCA signs. This work was done in 2005. The yellow paint blazes along the boundaries could use a fresh coat of paint.

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. Please refer to your Connecticut Best Management Practices Manual.

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. 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 and watercourses.

INVASIVES/VINES

Stands 2, 7 and 8 have invasive shrubs (barberry, multi-flora rose) and vines (bittersweet). All of these invasives are located south of Camp Road. 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.

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. A more detailed treatment method is described in the stand recommendations.

Multi-flora rose shrub in Stand 2

AESTHETICS

There are many opportunities to improve the beauty or aesthetics of the property 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 growth and woody debris of a forest to create a truly park-like setting. This may be desirable around a house, campsite, viewshed 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.

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 property 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 five acres is usually adhered to.

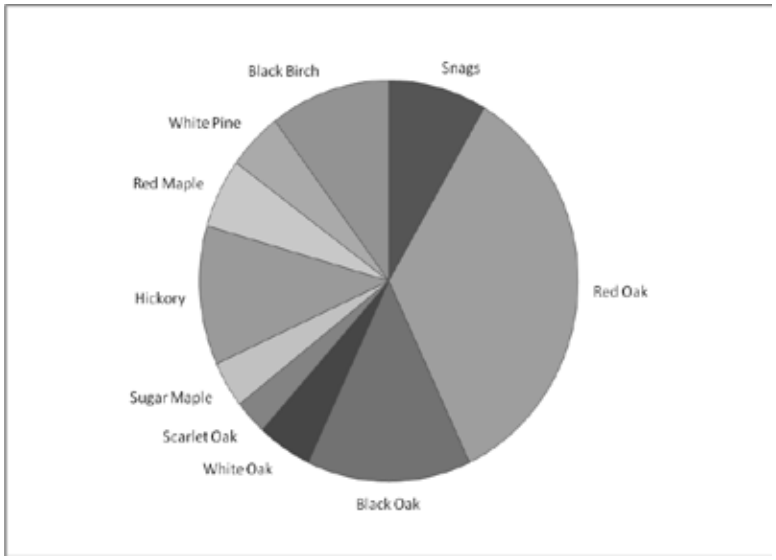
The following stand descriptions are based on 25 measurement points (10 BAF) evenly distributed throughout the forest. At each measurement point, quantitative and qualitative data was recorded. An average of 10 trees was measured at each point (species, diameter, and height). I zig-zagged all over the place when walking between plots to ensure that I saw every acre.

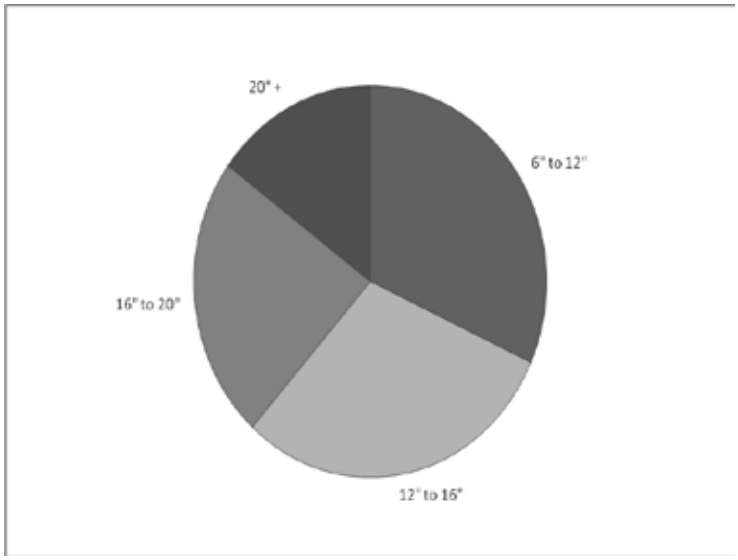
Each description begins with two graphs. The first shows the relative abundance of each species by percent. Not all species found in a stand will be included in this graph because some of the less common species did not fall within a measurement point. The second graph shows the relative abundance of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

In addition to the following stands, Hurds Lake occupies 19 acres of the property. Beavers have been very active cutting down trees along the shore. This makes the shoreline more open and shrubby.

View Clearing to West in Stand 1

STAND 1: RED OAK (57 ACRES)





Other Species (not measured)	Hemlock, paper birch, beech, yellow birch
Regeneration / Understory	Varying density of maple, birch, oak and pine saplings Patches of dense white oak seedlings – particularly on southern aspects Witch hazel, musclewood, striped maple shrubs Blueberry and huckleberry shrubs on dry hilltops
Coarse Woody Debris	Above average amount due to timber harvests and snowstorm crown damage
Insect / Disease / Disturbance	Minor white pine weevil damage Patches of snowstorm Alfred damage in the canopy Thin hemlock crowns Gypsy moth egg masses on oak bark
Invasives / Vines	None of significance
Canopy Closure	75%
Basal Area per Acre	76
Trees per Acre	109
Volume per Acre	4.3 MBF
%UGS	20% (mostly poletimber)
History	Likely pasture 100+ years ago 1988 timber harvest of southern half -Includes the small block directly north of Hurds Lake 1990 timber harvest of northern half 2005 timber harvest of entire stand View clearing as part of this harvest (see map)

This stand consists of a diverse mix of oak, hickory, maple, birch and pine growing on rocky hillsides. It is a multi-aged and multi-sized stand, with a very valuable component of high-quality vigorous red oak sawtimber. The quality of the growing site varies with topographic position.

Some areas were cut hard in 1988, resulting in some dense young birch sapling and poletimber growth, particularly in the southern half of the stand. The southern half of the stand also has drier soils, with a more southern exposure, that makes black oak and hickory trees more common; along with white pine and white oak saplings in the understory. Snowstorm Alfred damage seemed to be more common in the south.

There are some patches in understory hemlock growth in the northern half of the stand. The northern half also has some steep slopes at the top of the ridgeline that are growing shorter oak. The 5-acre block to the north of Hurds Lake has a nice mix of red oak and pine sawtimber. The 4-acre block to the east of Hurds Lake has a mix of oak and pine sawtimber, with

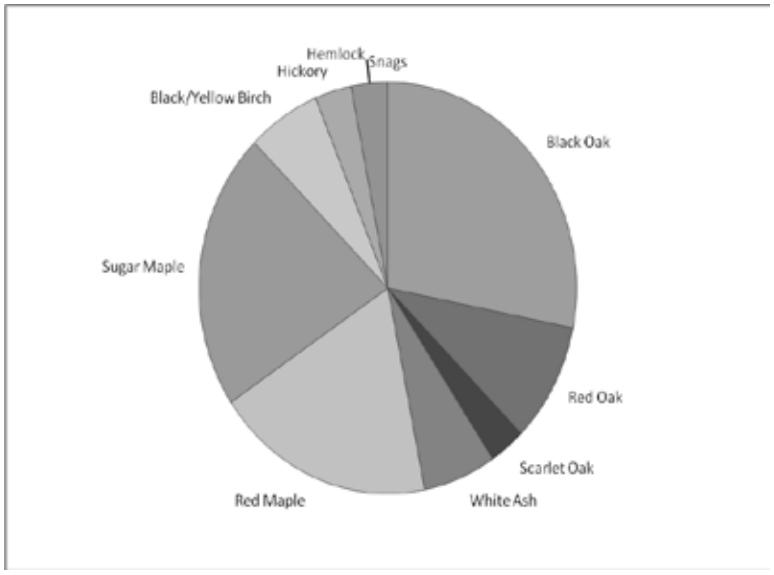
some severe snowstorm Alfred damage of oak crowns.

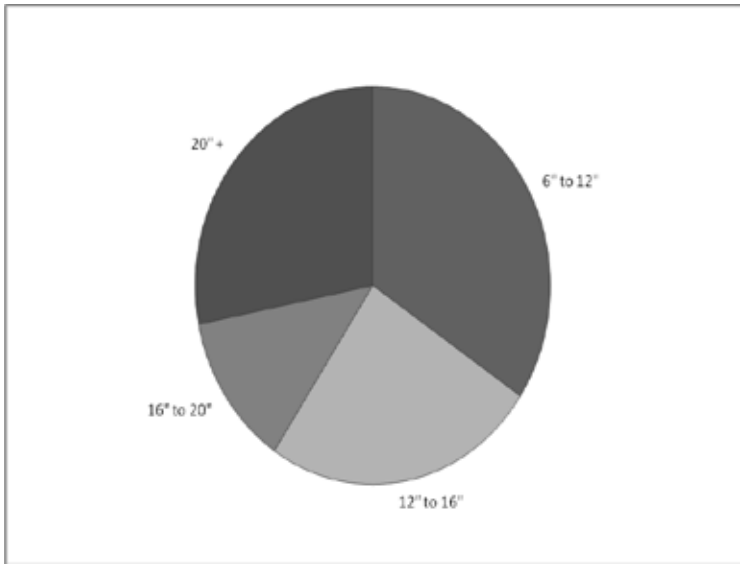
Recommendations

None

White Oak and Pine Saplings in Stand 1

STAND 2: BLACK OAK (14 ACRES)





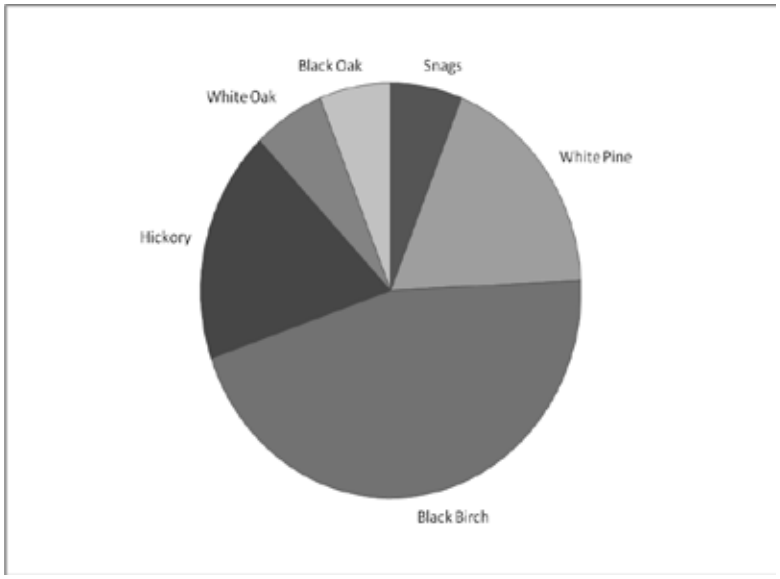
Other Species (not measured)	Beech, white pine, white oak, black cherry
Regeneration/Understory	A few hickory, maple and birch saplings
	Hophornbeam, striped maple, musclewood and blackberry shrubs
Coarse Woody Debris	Above average amount
Insect/Disease/Disturbance	Ash decline and death
	Minor birch canker
	Patches of snowstorm Alfred damage in the canopy
	Thin hemlock crowns
	Gypsy moth egg masses on oak bark
Invasives/Vines	Patches of multi-flora rose shrubs
	Particularly along main north-south skid trail through center of stand
	Patches of grape and bittersweet vines
Canopy Closure	70%
Basal Area per Acre	80
Trees per Acre	108
Volume per Acre	4.8 MBF
%UGS	25%
History	Likely sheep pasture and/or hay field 100+ years ago
	Timber harvests in 1993 and 2005

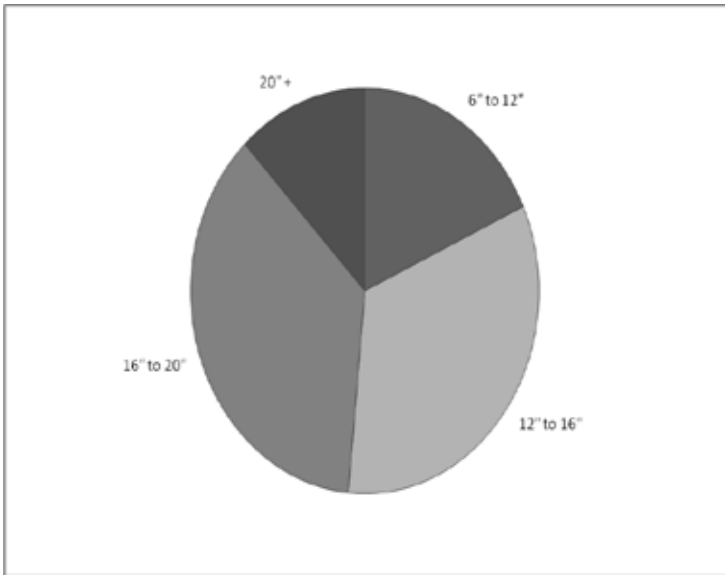
This stand is dominated by large sawtimber oak (mostly black oak) growing on a mostly flat, nutrient-rich site. This is followed by a significant component of sugar and red maple poles, making this stand two-aged. There are some very vigorous sugar maple poles in the south end of the stand. It is also in this south end that you find a few dying white ash poles. There is a patch of hemlock trees that is plainly visible on the air photo map.

Recommendations

Eradicate the invasive multi-flora rose shrubs and cut the vines

STAND 3: BIRCH (13 ACRES)





Other Species (not measured)	Paper birch, red oak, black oak, aspen, sugar maple, hemlock
Regeneration/Understory	Light density of birch and pine saplings
	A few white oak and hickory seedlings
Coarse Woody Debris	Above average amount due to 2006 tree cutting
Insect/Disease/Disturbance	Moderate birch canker
	Patches of snowstorm Alfred damage in the canopy
Invasives/Vines	None of significance
Canopy Closure	80%
Basal Area per Acre	83
Trees per Acre	104
Volume per Acre	4.8 MBF
%UGS	30%
History	Likely pasture 100+ years ago
	Heavy timber cut 40+ years ago
	2006 pre-commercial thinning
	State grant paid for this work

This stand is dominated by black birch trees; with some pine, oak and hickory mixed in. Many of the pine are quite large. Most of the trees are of sawtimber size. There is also a significant component of birch poles. The stand is at the base of a hill, which makes it an excellent growing site from all the soil nutrients from the hillside being washed down into it.

In 2006, many of the cull trees were cut down to provide growing space to the healthiest and most valuable black birch and oak trees. These crop trees still have plenty of room to grow and the stand is primed for high value growth well into the future. In addition to cutting trees down in 2006, a few of the larger cull trees were girdled to kill them.

Included within this stand is a 1-acre opening that is now full of dense birch saplings. This area was cleared by the neighbor over 12 years ago. There is also a small intermittent stream in this stand.

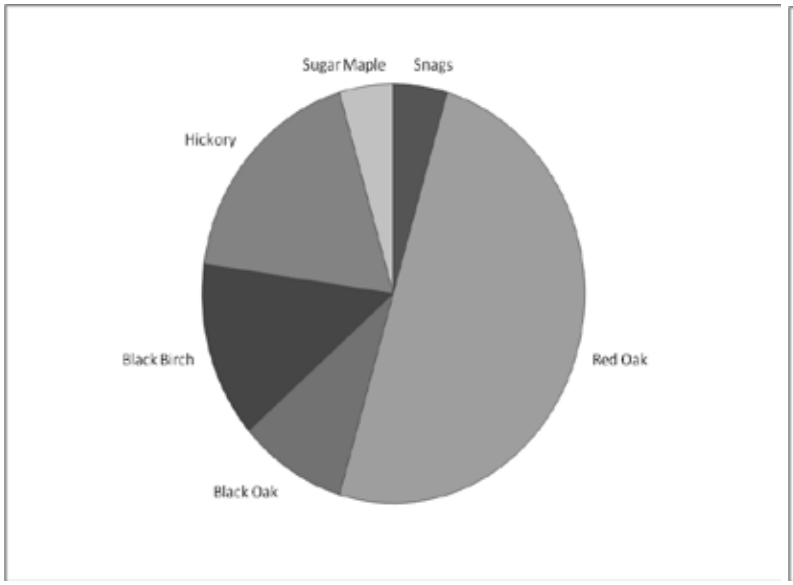
Recommendations

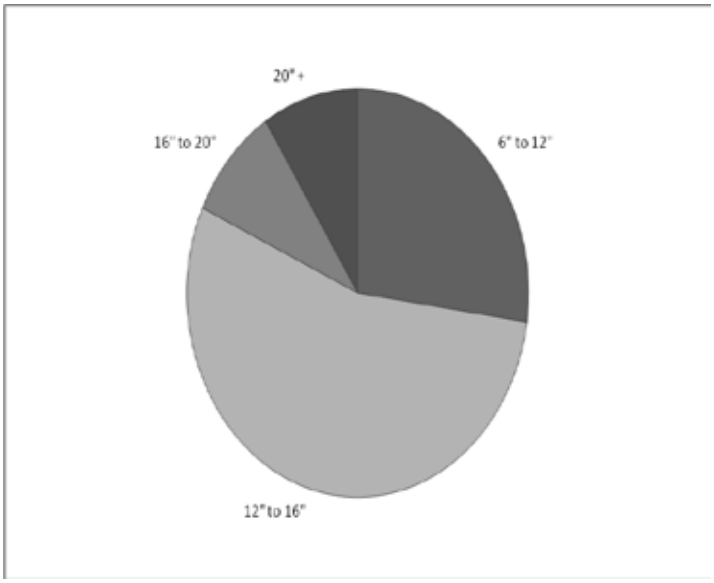
None

Stumps from 2006 Tree Cutting in Stand 3

Crop Tree Released in Stand 3 by Cutting Trees from Stumps in Picture Above

STAND 4: YOUNG OAK (8 ACRES)





Other Species (not measured)	Paper birch, white pine, hemlock, scarlet oak, white oak, yellow birch, red maple
Regeneration / Understory	Light density of maple, birch and hemlock saplings
	A few witch hazel, striped maple and hophornbeam shrubs
Coarse Woody Debris	Above average amount due to 2006 tree cutting
Insect / Disease / Disturbance	Minor birch canker
	Thin hemlock crowns
	Gypsy moth egg masses on oak bark
	Minor amount of snowstorm Alfred damage
Invasives / Vines	None of significance
Canopy Closure	80%
Basal Area per Acre	55
Trees per Acre	82
Volume per Acre	3.5 MBF
%UGS	5%
History	Likely pasture 100+ years ago
	Heavy timber cut 40+ years ago
	2006 pre-commercial thinning
	State grant paid for this work

This stand is dominated by red oak trees; with some birch, black oak, hickory and maple mixed in. Most of the trees are of the poletimber and small-sawtimber size. The stand is at the base of a steep hill, which makes it an excellent growing site from all the soil nutrients from the hillside being washed down into it.

In 2006, most of the cull trees were cut down to provide growing space to the healthiest and most valuable red oak – hence the low %UGS. The oaks still have plenty of room to grow and the stand is primed for high value growth well into the future.

Recommendations
None

STAND 5: RIDGE PRESERVE (28 ACRES)

This entire stand drops steeply from the ridgeline to Hurds Lake. The ridgeline is dry and rocky; and the eastern slope is far too steep to access for any management. The dry ridgeline soils grow rather gnarly short-stature trees, which are a picturesque backdrop for the ridgeline trail that takes hikers up to the top of Perkins Mountain (elevation 980'). There is a fire pit at this topmost point. It is also the location of critical habitat according to the CT DEEP Natural Diversity Database – see attached NDDB report. The dugway runs through this stand – see History section of plan.

The stand is has a composition of trees similar to Stand 1. Specie includes hickory, red oak, chestnut oak, black oak, white oak, hemlock, red maple, sugar maple, black birch and beech. While most of the trees are of poletimber size, there are sawtimber sized trees throughout. I saw no invasives.

This stand should remain as a preserve.

STAND 6: YOUNG BIRCH (3 ACRES)

The southern half of this stand was a red pine plantation that was completely cleared of dying red pine in 1993. This area is now 30' tall black birch saplings with a few white pine and red maple saplings. There are also patches of white pine seedlings.

STAND 7: OLD-FIELDS (11 ACRES)

This area consists of abandoned fields separated by strips and patches of trees. These former hay and crop fields have excellent nutrient-rich Woodbridge prime farmland soils. The trees consist of red maple, aspen, black oak, cherry, ash, white pine, paper birch and red cedar. There are also a few old apple trees that are the remnants of a long-abandoned orchard. Both the treed areas and the fields contain invasives (multiflora rose, autumn olive, and barberry) and some small vines.

The abandoned fields are in various stages of succession back to mature forest. Some areas are still dominated by grasses, some by shrubs, and others by a mix of shrubs and young tree saplings. This creates a tremendous variety of wildlife habitat. The northeastern field was still being mowed when the 2004 plan was written. This plan stated, "Rose will eventually dominate the fields if left uncontrolled". This prediction is now true.

The northeastern field should be maintained by regular mowing, preferably at the end of August. Mowing at this time will allow the birds to safely nest in the fields prior to mowing. Any apple and red cedar trees should be kept free of competition (overtopping trees and vines) to foster this excellent source of wildlife food. Also, bluebird boxes could be installed along the edges of the fields.

Another option for the northeastern field is to create butterfly meadow. The first step would be to eradicate the invasives with herbicide and then plow the field. The field would then be seeded with a variety of plants (mostly wildflowers) that are carefully selected to provide nectar for adults and food for larva (caterpillars). The field would then need to be mowed periodically to inhibit woody growth. A butterfly meadow would also be beneficial to bees and other pollinating insects.

STAND 8: WETLAND/RIPARIAN (15 ACRES)

This area consists of the wetlands associated with the lake's inlet and outlet streams. These streams are the centerpiece of two riparian corridors – 4 acres in the north and 11 acres in the south. This riparian stand contains red maple, sugar maple, black birch, yellow birch, black cherry, white ash and elm. There are patches of invasive multi-flora rose and barberry shrubs. Many of the ash are in decline and a few are dead.

This stand should be left alone and protected from any upland activities and disturbances in order to protect water quality.

STAND 9: CAMP AREA (16 ACRES)

This area consists of the developed camp area. Other than the athletic fields, the entire area is forested. The tree canopy consists of various large mature oaks and white pines. Most of the oaks are black oak, with a few red and white oak trees. The understory has many young pine and black birch saplings. There are some patches of Snowstorm Alfred damage to the tree canopy. This stand has a small forested wetland along Camp Road. The eastern edge of the stand has some recently removed cabins, with just the stone foundation pillars remaining. This area also has an extensive network of paved drainage ditches.

Remains of Removed Cabin

SUMMARY OF MANAGEMENT RECOMMENDATIONS

The following table summarizes recommended forest management activities for the Town of Somers Camp AYA-PO in Somers CT for the management period 2016 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 landowner.

- Fresh coat of yellow paint on the property boundary blazes and repaint every 5 years
- Eradicate/control the invasive shrubs and vines in Stand 2.
- Install bluebird boxes along the field edges in Stand 7
- Release the red cedar trees from competing trees and vines in Stand 7
- Restore the northeastern field in Stand 7 by mowing it periodically
    - Or establish a butterfly meadow in the northeastern field of Stand7
- Reinventory the forest and update the forest stewardship plan in 2026

Woods Road along Hurds Lake

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 12”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

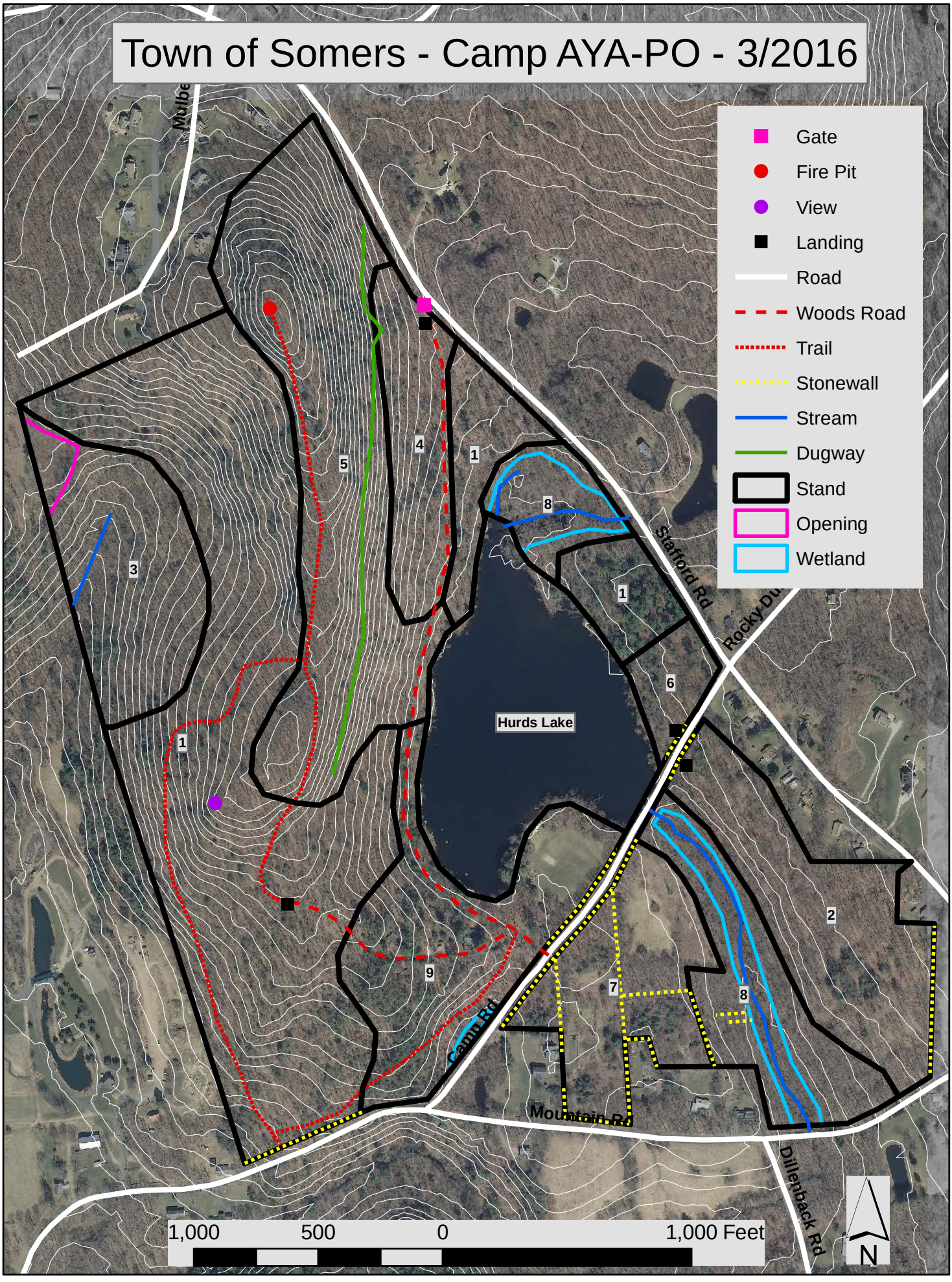
Snag: A dead standing tree

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


Town of Somers - Camp AYA-PO - 3/2016
Gate
Fire Pit
View
Landing
Road
Woods Road
Trail
Stonewall
Stream
Dugway
Stand
Opening
Wetland
Hurds Lake
Stafford Rd
Rocky Du
Camp Rd
Mountain Rd
Dillenback Rd
1,000
500
0
1,000 Feet
N

SOMERS CONNECTICUT TRAILS

CAMP AYA-PO
Existing and Proposed Trails

Existing Trails:

Lower Trail
0.6 mi. (parking to Stafford Rd.)

Perkins Mtn. Trail
0.7 Mi. (parking to summit)
0.3 mi. (summit to Lower Tr.)

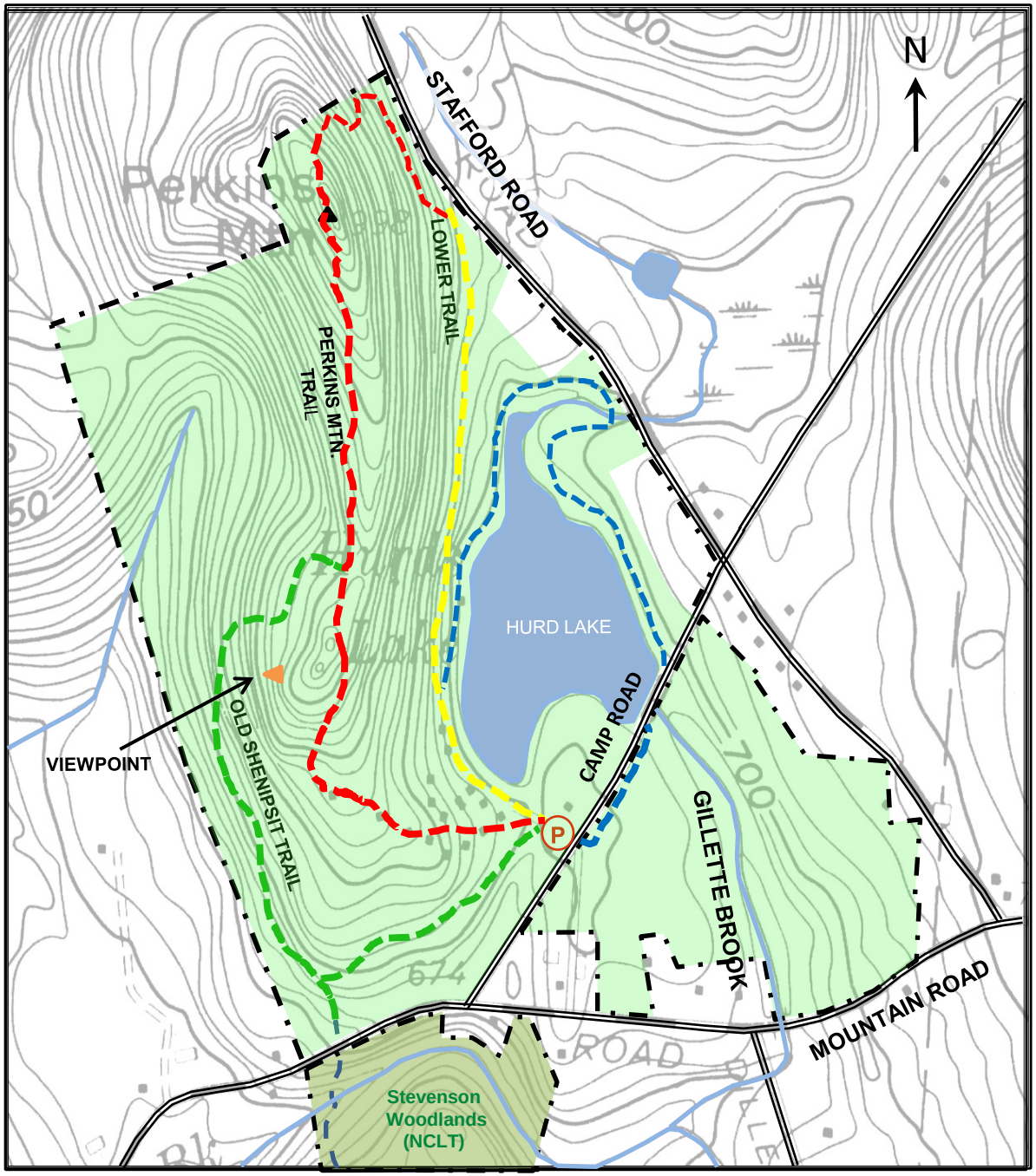
Old Shenipsit Trail
0.5 mi (Mtn. Rd. to Perkins Mtn. Tr.)

Old Shenipsit Trail Connector
0.3 mi. (parking to Old Shenipsit Tr.)

Proposed Trails

Perkins Mtn. Trail
0.3 mi. (summit to Lower Tr.)

Lakeside Trail
1.0 mi. loop



United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for State of Connecticut

March 28, 2016

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:8,660 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 400 800 1600 2400

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 14, Sep 22, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 28, 2011—May 12, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

State of Connecticut (CT600)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	9.6	5.2%
45A	Woodbridge fine sandy loam, 0 to 3 percent slopes	0.3	0.2%
45B	Woodbridge fine sandy loam, 3 to 8 percent slopes	10.8	5.8%
45C	Woodbridge fine sandy loam, 8 to 15 percent slopes	0.7	0.4%
46B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	8.6	4.6%
61B	Canton and Charlton soils, 3 to 8 percent slopes, very stony	2.6	1.4%
61C	Canton and Charlton soils, 8 to 15 percent slopes, very stony	14.2	7.6%
62D	Canton and Charlton soils, 15 to 35 percent slopes, extremely stony	14.5	7.8%
73C	Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky	13.2	7.1%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	42.0	22.7%
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	2.7	1.5%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	23.2	12.5%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	0.3	0.2%
85B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony	8.3	4.5%
85C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony	16.5	8.9%
306	Udorthents-Urban land complex	2.2	1.2%
W	Water	15.6	8.4%
Totals for Area of Interest		**185.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly

indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

State of Connecticut

3—Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2t2qt
Elevation: 0 to 1,480 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury, extremely stony, and similar soils: 40 percent
Leicester, extremely stony, and similar soils: 35 percent
Whitman, extremely stony, and similar soils: 20 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Extremely Stony

Setting

Landform: Depressions, drainageways, ground moraines, hills
Landform position (two-dimensional): Toeslope, backslope, footslope
Landform position (three-dimensional): Base slope, head slope, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

A - 0 to 5 inches: fine sandy loam
Bw - 5 to 9 inches: sandy loam
Bg - 9 to 18 inches: gravelly sandy loam
Cd - 18 to 65 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 14 to 32 inches to densic material
Natural drainage class: Poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D

Description of Leicester, Extremely Stony

Setting

Landform: Depressions, drainageways
Landform position (two-dimensional): Toeslope, footslope, backslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Coarse-loamy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 7 inches: fine sandy loam
Bg1 - 7 to 10 inches: fine sandy loam
Bg2 - 10 to 18 inches: fine sandy loam
BC - 18 to 24 inches: fine sandy loam
C1 - 24 to 43 inches: gravelly fine sandy loam
C2 - 43 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B/D

Description of Whitman, Extremely Stony

Setting

Landform: Depressions, drainageways
Landform position (two-dimensional): Toeslope, footslope, backslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 9 inches: fine sandy loam
Bg - 9 to 16 inches: fine sandy loam
Cdg1 - 16 to 22 inches: fine sandy loam
Cdg2 - 22 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 12 to 20 inches to densic material
Natural drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Occasional
Available water storage in profile: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D

Minor Components

Woodbridge, extremely stony

Percent of map unit: 3 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear

Swansea

Percent of map unit: 2 percent
Landform: Bogs, swamps
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave

45A—Woodbridge fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2w686
Elevation: 0 to 1,420 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodbridge and similar soils: 85 percent

Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge

Setting

Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 18 inches: fine sandy loam
Bw2 - 18 to 30 inches: fine sandy loam
Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Natural drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D

Minor Components

Paxton

Percent of map unit: 7 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Linear, convex
Across-slope shape: Convex

Ridgebury

Percent of map unit: 6 percent
Landform: Depressions, drainageways, drumlins, ground moraines, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave

Whitman, extremely stony

Percent of map unit: 1 percent

Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Concave

Sutton
Percent of map unit: 1 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear

45B—Woodbridge fine sandy loam, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: 2t2ql
Elevation: 0 to 1,470 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Woodbridge, fine sandy loam, and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Fine Sandy Loam

Setting
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile
Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 18 inches: fine sandy loam
Bw2 - 18 to 30 inches: fine sandy loam
Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities
Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D

Minor Components

Paxton

Percent of map unit: 10 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex

Ridgebury

Percent of map unit: 8 percent
Landform: Depressions, drainageways, ground moraines, hills
Landform position (two-dimensional): Toeslope, backslope, footslope
Landform position (three-dimensional): Base slope, head slope, dip
Down-slope shape: Concave
Across-slope shape: Concave

45C—Woodbridge fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w689
Elevation: 0 to 1,370 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Woodbridge and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge

Setting

Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex

Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 18 inches: fine sandy loam
Bw2 - 18 to 30 inches: fine sandy loam
Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Natural drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D

Minor Components

Paxton

Percent of map unit: 10 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex

Ridgebury

Percent of map unit: 4 percent
Landform: Depressions, drainageways, drumlins, ground moraines, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave

Sutton

Percent of map unit: 1 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear

46B—Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2t2qr
Elevation: 0 to 1,440 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Woodbridge, very stony, and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Very Stony

Setting

Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 9 inches: fine sandy loam
Bw1 - 9 to 20 inches: fine sandy loam
Bw2 - 20 to 32 inches: fine sandy loam
Cd - 32 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 19 to 27 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: C/D

Minor Components

Paxton, very stony

Percent of map unit: 10 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear

Ridgebury, very stony

Percent of map unit: 8 percent
Landform: Depressions, drainageways, drumlins, ground moraines, hills
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave

61B—Canton and Charlton soils, 3 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 9lpr
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Canton and similar soils: 45 percent
Charlton and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy and gravelly melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: gravelly fine sandy loam
Bw1 - 3 to 15 inches: gravelly loam
Bw2 - 15 to 24 inches: gravelly loam
Bw3 - 24 to 30 inches: gravelly loam

2C - 30 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B

Description of Charlton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 7 inches: fine sandy loam
Bw2 - 7 to 19 inches: fine sandy loam
Bw3 - 19 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B

Minor Components

Sutton

Percent of map unit: 5 percent

Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear

Leicester

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave

Chatfield

Percent of map unit: 5 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear

Hollis

Percent of map unit: 5 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex

61C—Canton and Charlton soils, 8 to 15 percent slopes, very stony

Map Unit Setting

National map unit symbol: 9lps
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Canton and similar soils: 45 percent
Charlton and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy and gravelly melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: gravelly fine sandy loam

Bw1 - 3 to 15 inches: gravelly loam
Bw2 - 15 to 24 inches: gravelly loam
Bw3 - 24 to 30 inches: gravelly loam
2C - 30 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B

Description of Charlton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 7 inches: fine sandy loam
Bw2 - 7 to 19 inches: fine sandy loam
Bw3 - 19 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B

Minor Components

Sutton
Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear

Leicester
Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave

Chatfield
Percent of map unit: 5 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear

Hollis
Percent of map unit: 5 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex

62D—Canton and Charlton soils, 15 to 35 percent slopes, extremely stony

Map Unit Setting
National map unit symbol: 9lpv
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition
Canton and similar soils: 45 percent
Charlton and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex

Parent material: Coarse-loamy over sandy and gravelly melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: gravelly fine sandy loam
Bw1 - 3 to 15 inches: gravelly loam
Bw2 - 15 to 24 inches: gravelly loam
Bw3 - 24 to 30 inches: gravelly loam
2C - 30 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 15 to 35 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B

Description of Charlton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 7 inches: fine sandy loam
Bw2 - 7 to 19 inches: fine sandy loam
Bw3 - 19 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 35 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B

Minor Components

Sutton

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear

Leicester

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave

Chatfield

Percent of map unit: 5 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear

Hollis

Percent of map unit: 5 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex

73C—Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 9lqk
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton and similar soils: 45 percent
Chatfield and similar soils: 30 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 7 inches: fine sandy loam
Bw2 - 7 to 19 inches: fine sandy loam
Bw3 - 19 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B

Description of Chatfield

Setting

Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 15 inches: gravelly fine sandy loam
Bw2 - 15 to 29 inches: gravelly fine sandy loam
2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B

Minor Components

Rock outcrop

Percent of map unit: 6 percent

Sutton

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear

Leicester

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave

Hollis

Percent of map unit: 5 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex

Unnamed, red parent material

Percent of map unit: 2 percent

Unnamed, sandy subsoil

Percent of map unit: 2 percent

73E—Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 9lql
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton and similar soils: 45 percent
Chatfield and similar soils: 30 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 7 inches: fine sandy loam
Bw2 - 7 to 19 inches: fine sandy loam
Bw3 - 19 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 45 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B

Description of Chatfield

Setting

Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 15 inches: gravelly fine sandy loam
Bw2 - 15 to 29 inches: gravelly fine sandy loam
2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B

Minor Components

Rock outcrop

Percent of map unit: 10 percent

Sutton

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear

Leicester

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave

Hollis

Percent of map unit: 3 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex

Unnamed, red parent material

Percent of map unit: 1 percent

Unnamed, sandy subsoil

Percent of map unit: 1 percent

75C—Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9lqn

Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Hollis and similar soils: 35 percent
Chatfield and similar soils: 30 percent
Rock outcrop: 15 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting

Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 9 inches: channery fine sandy loam
Bw2 - 9 to 15 inches: gravelly fine sandy loam
2R - 15 to 80 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D

Description of Chatfield

Setting

Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material

A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 15 inches: gravelly fine sandy loam
Bw2 - 15 to 29 inches: gravelly fine sandy loam
2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B

Description of Rock Outcrop

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D

Minor Components

Charlton

Percent of map unit: 7 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear

Sutton

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear

Leicester

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave

Brimfield

Percent of map unit: 1 percent
Landform: Hills, ridges

Down-slope shape: Convex
Across-slope shape: Convex

Unnamed, sandy subsoil
Percent of map unit: 1 percent

Unnamed, red parent material
Percent of map unit: 1 percent

75E—Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes

Map Unit Setting
National map unit symbol: 9lqp
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition
Hollis and similar soils: 35 percent
Chatfield and similar soils: 30 percent
Rock outcrop: 15 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile
Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 9 inches: channery fine sandy loam
Bw2 - 9 to 15 inches: gravelly fine sandy loam
2R - 15 to 80 inches: bedrock

Properties and qualities
Slope: 15 to 45 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D

Description of Chatfield

Setting

Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 15 inches: gravelly fine sandy loam
Bw2 - 15 to 29 inches: gravelly fine sandy loam
2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B

Description of Rock Outcrop

Properties and qualities

Slope: 15 to 45 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D

Minor Components

Charlton
Percent of map unit: 7 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear

Sutton
Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear

Leicester
Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave

Brimfield
Percent of map unit: 1 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex

Unnamed, red parent material
Percent of map unit: 1 percent

Unnamed, sandy subsoil
Percent of map unit: 1 percent

84B—Paxton and Montauk fine sandy loams, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: 2t2qn
Elevation: 0 to 1,570 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Paxton and similar soils: 55 percent
Montauk and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 39 inches to densic material
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C

Description of Montauk

Setting

Landform: Drumlins, hills
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

A - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 14 inches: fine sandy loam
Bw2 - 14 to 25 inches: sandy loam
2Cd1 - 25 to 39 inches: gravelly loamy coarse sand
2Cd2 - 39 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 38 inches to densic material
Natural drainage class: Well drained
Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 24 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C

Minor Components

Woodbridge

Percent of map unit: 5 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Footslope, backslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear

Charlton

Percent of map unit: 5 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear

Ridgebury

Percent of map unit: 5 percent
Landform: Depressions, drainageways, ground moraines, hills
Landform position (two-dimensional): Toeslope, backslope, footslope
Landform position (three-dimensional): Base slope, head slope, dip
Down-slope shape: Concave
Across-slope shape: Concave

85B—Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w679
Elevation: 0 to 1,530 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton, very stony, and similar soils: 55 percent

Montauk, very stony, and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton, Very Stony

Setting

Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 10 inches: fine sandy loam
Bw1 - 10 to 17 inches: fine sandy loam
Bw2 - 17 to 28 inches: fine sandy loam
Cd - 28 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C

Description of Montauk, Very Stony

Setting

Landform: Drumlins, ground moraines, hills, recessionial moraines
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 6 inches: fine sandy loam
Bw1 - 6 to 28 inches: fine sandy loam
Bw2 - 28 to 36 inches: sandy loam

2Cd - 36 to 74 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C

Minor Components

Woodbridge, very stony

Percent of map unit: 8 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope, summit, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Linear

Charlton, very stony

Percent of map unit: 3 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex

Ridgebury, very stony

Percent of map unit: 3 percent
Landform: Depressions, drainageways, drumlins, ground moraines, hills
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave

Stockbridge, very stony

Percent of map unit: 1 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Concave
Across-slope shape: Linear

85C—Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w67f
Elevation: 0 to 1,520 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton, very stony, and similar soils: 55 percent
Montauk, very stony, and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton, Very Stony

Setting

Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 10 inches: fine sandy loam
Bw1 - 10 to 17 inches: fine sandy loam
Bw2 - 17 to 28 inches: fine sandy loam
Cd - 28 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C

Description of Montauk, Very Stony

Setting

Landform: Drumlins, ground moraines, hills, recessionial moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 6 inches: fine sandy loam
Bw1 - 6 to 28 inches: fine sandy loam
Bw2 - 28 to 36 inches: sandy loam
2Cd - 36 to 74 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C

Minor Components

Woodbridge, very stony

Percent of map unit: 6 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear

Charlton, very stony

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope

Down-slope shape: Linear, convex
Across-slope shape: Convex

Ridgebury, very stony
Percent of map unit: 3 percent
Landform: Depressions, drainageways, drumlins, ground moraines, hills
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave

Stockbridge, very stony
Percent of map unit: 1 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear

306—Udorthents-Urban land complex

Map Unit Setting
National map unit symbol: 9lmg
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition
Udorthents and similar soils: 50 percent
Urban land: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Drift

Typical profile
A - 0 to 5 inches: loam
C1 - 5 to 21 inches: gravelly loam
C2 - 21 to 80 inches: very gravelly sandy loam

Properties and qualities
Slope: 0 to 25 percent
Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 54 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B

Description of Urban Land

Typical profile
H - 0 to 6 inches: material

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D

Minor Components

Unnamed, undisturbed soils
Percent of map unit: 8 percent

Udorthents, wet substratum
Percent of map unit: 5 percent
Down-slope shape: Convex
Across-slope shape: Linear

Rock outcrop
Percent of map unit: 2 percent

W—Water

Map Unit Composition
Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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Connecticut Department of
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April 18, 2016

David Beers
Connwood Foresters, Inc.
PO Box 150
Rockfall, CT 06481

NDDB Determination No: 201604309
Project: Forest Stewardship Plan for the Town of Somers Camp Aya-Po, 25 Camp Road; Somers, CT

Dear David Beers,

I have reviewed Natural Diversity Data Base (NDDB) maps and files regarding 25 Camp Road in Somers, Connecticut.

According to our records, the following Connecticut Critical Habitat has been documented on-site:

- **Dry Subacidic Forest** – Slow-growing forests, primarily on or near the summit of basalt or other mafic rocks; often dominated by white ash, hickories and hophornbeam, with few shrubs and an open grassy ground cover. Subtypes include ash/hickory woodland and other/unique.

To prevent impacts to the occurrence of Dry Subacidic Forest at this site, I recommend avoiding forestry management activities within the area highlighted on the attached map. Invasive species management, however, may benefit this uncommon habitat type.

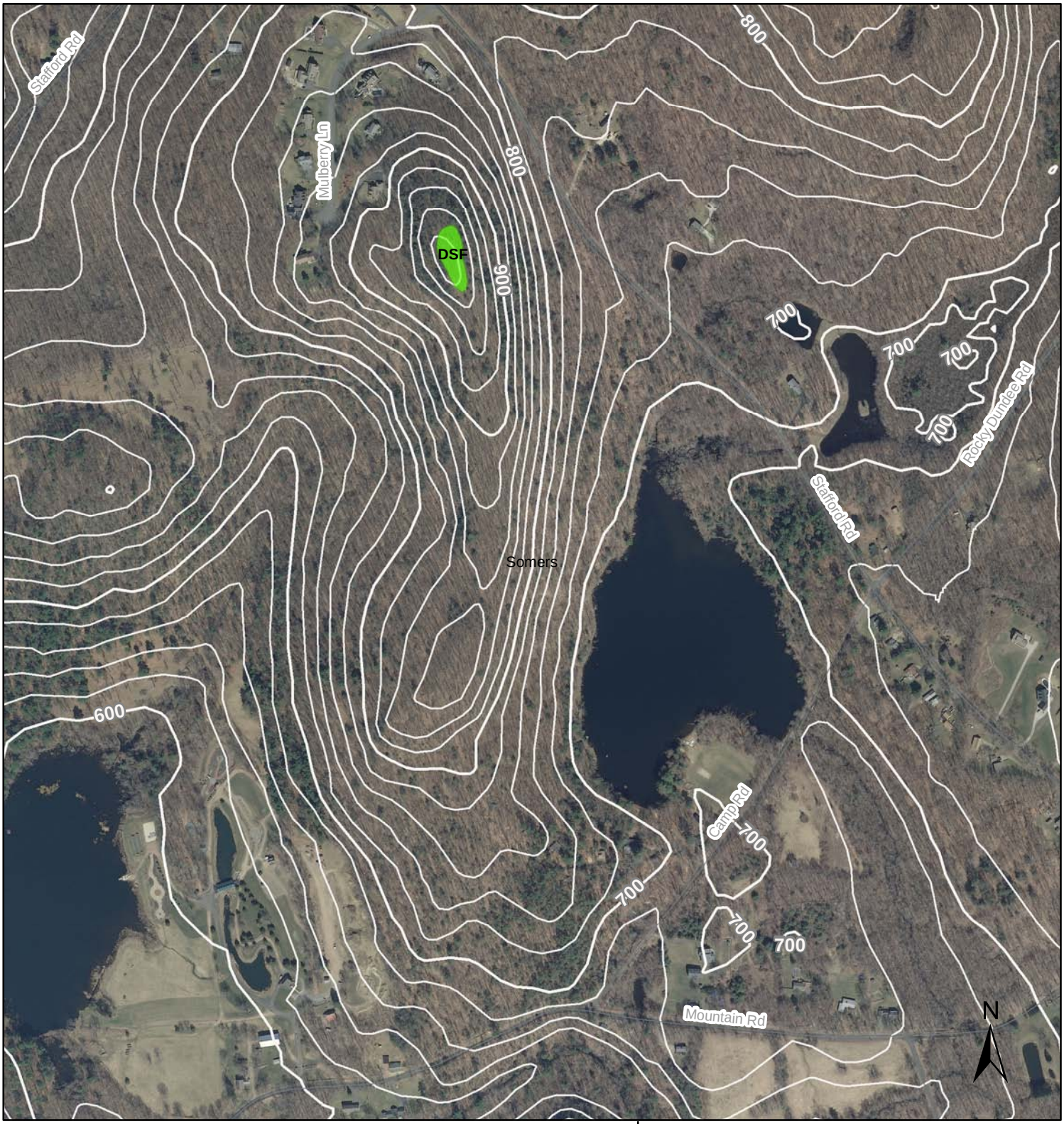
This determination is valid for one year. Please submit an updated NDDB Request for Review if the scope of the proposed work changes or if work has not begun by **April 18, 2017.**

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Bureau of Natural Resources and cooperating units of DEEP, independent conservation groups, and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the NDDB should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated in the NDDB as it becomes available.

Please contact me if you have any questions (nelson.debarros@ct.gov; 860-424-3585). Thank you for consulting with the Natural Diversity Data Base and continuing to work with us to protect State-listed species.

Sincerely,

Nelson B. DeBarros
Botanist/Ecologist



Feet

0 300 600 1,200

25 Camp Road
Somers, CT

NDDB request #201604309
Map assembled: 04/18/2016

Dry Subacidic Forest (DSF)