



AVALONIA LAND CONSERVANCY, Inc.  
P.O. Box 49,  
Old Mystic, CT 06372

# Barrett Preserve

## Property Management Plan

890 and 904 Long Cove Road and 61 Christy Hill Road  
Ledyard, New London County, Connecticut

Ledyard Town Committee is responsible  
for stewardship of this property

Plan Prepared by:  
Michael Goodwin  
30 March 2012  
Revised March 2017 by Karen Askins

Approved by Ledyard Town Committee: \_\_\_\_\_  
Chairman

Date \_\_\_\_\_

Approved by Stewardship Committee: \_\_\_\_\_  
Chairman

Date \_\_\_\_\_



AVALONIA LAND CONSERVANCY, Inc.  
P.O. Box 49,  
Old Mystic, CT 06372

## SUMMARY

This plan covers three adjacent parcels managed collectively as the Barrett Preserve, the “property” in this plan. These parcels are located at 890 Long Cove Road (5.78 acres), 904 Long Cove Road (57.45 acres), and 61 Christy Hill Road (8.49 acres), respectively, in Ledyard, CT. The entrance to the property is located across from Mount Vernon Drive on 904 Long Cove Road. Event parking is available in the mown field inside the entrance. Routine visitor parking is available along Mount Vernon Drive. Visitors are welcome. The property has a sign at the entrance giving access restrictions. Trail map signs are posted at several locations along the trails.

All three parcels are owned by Avalonia Land Conservancy, Inc., P.O. Box 49, Old Mystic, CT 06372. Avalonia Land Conservancy (ALC) can be reached by email at [avalonialc@yahoo.com](mailto:avalonialc@yahoo.com), by phone at 860-884-3500, and has a website at <http://www.avalonialandconservancy.org>.

The property was donated to Avalonia (then the Mashantucket Land Trust, Inc.) by The Nature Conservancy on January 6, 1994. The Nature Conservancy received the property through a donation from Mrs. Marion W. Stubing a/k/a Marion W. Barrett. All three parcels were transferred to The Nature Conservancy on June 8, 1967.

The parcels are mostly wooded except for a mown field near the entrance. This field was kept mown by Mrs. Stubing and she requested that this be continued on at least an annual basis by Avalonia Land Conservancy. The attached Forest Management Plan describes the property in detail. The land is a habitat for birds, deer, and smaller mammals. Blazed hiking trails are maintained for visitor access.

## The property

The plan below shows the property with the green lines showing the parcel divisions. These parcels are 890 Long Cove Road on the right, 61 Christy Hill Road center north, and 904 Long Cove Road to the south and west. The road north of the property is Christy Hill Road. The road along the SE boundary is Long Cove Road. The entrance to the properties is located at the orange square on Long Cove Road across from Mount Vernon Drive.



In the above map stone walls are shown by dotted black lines. The yellow trail forms a figure eight loop through the property as shown. The outer loop is blazed with yellow vertical blazes and the crossover in the middle is blazed with yellow dots. The orange squares show the locations of trail map signs on the property. An unnamed brook (in blue) runs from east to west across the property.

Appendix I contains copies of the deeds with the legal description of each property. Acreage according to the town's GIS parcel map is 71.72 acres.

The area surrounding the Barrett Preserve is composed of residential neighborhoods. On Long Cove Road are two single-family homes and to the south is a mobile home community. Across from the entrance is a housing development. To the north, the Avalonia property runs partially along Christy Hill

Road with more single-family homes across the road. The properties that abut to the east, northeast and the west are single-family homes with wooded lots, the largest being 11 acres to the east.

#### Acquisition history

The various tracts were acquired by Leighton E. Barrett from Chauncey C. Crouch on October 1, 1938. A number of lots were split from the property over the years until the property was transferred to The Nature Conservancy and then to Avalonia Land Conservancy.

The conveyance to the Mashantucket Land Trust, Inc., then the name of Avalonia Land Conservancy, is subject to easements and restrictions of record.

The conveyance was made subject to the express condition and limitation that the premises conveyed shall forever be held as a nature preserve for scientific, educational and aesthetic purposes, and shall be kept entirely in its natural state, excepting only such fences, foot trails, improvements and property maintenance activities as may be appropriate to effectuate the foregoing purpose without impairing the essential natural character of the premises.

The Nature Conservancy retains the right, but not the obligation, to monitor and manage the premises for natural communities and all species designated by the State of Connecticut as endangered, threatened or of special concern.

Should the premises cease to be used solely as provided above, then the estate shall cease to exist and shall revert to and vest in The Nature Conservancy of Connecticut, Inc. Said reversion shall not be automatic, but in the nature of a right of entry for condition broken or executory interest, which right, if exercised by The Nature Conservancy upon violation of the above conditions, is exercised by mailing a notice of violation to Avalonia. Said notice shall describe the breach and declare the power of termination will be exercised if the breach is not corrected within a 90 day period.

As part of the consideration for this deed, Avalonia agreed to erect and maintain a permanent plaque at a prominent location with the following statement: "This area was acquired with the assistance of The Nature Conservancy." Such plaque is presently posted on the entrance sign.

#### Land use history (from the Forest Stewardship Plan, Appendix II)

Stand descriptions are given in Appendix II.

It is likely this property was cleared for agriculture at one time (pasture since it is so rocky) but reverted to forest after farming stopped. Stonewalls and a possible barn foundation are evidence of the decades of agricultural use throughout the property. Along some of the property boundaries and within the forest there are remnants of 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.

An indication of past tilling and mowing is an area with few, if any, surface rocks and a relatively smooth forest floor. The many small rocks in these areas were picked out of the fields each spring after winter frosts brought the rocks to the surface. A stonewall with many small rocks is indicative of past tilling.

Sections of stand 1 and 2 (especially to the northeast) may have been used as pasture, but because of its rockiness, it is more likely to have been used solely as a firewood source for home heating and charcoal production. The gentler and less stony topography in parts of stands 1 and stand 3 as well as the old field, may have supported tilled crops or mowed hay many decades ago.

The hurricane of September 21, 1938 probably had a large impact on the present day forest. One personal account tells of how the winds blew down trees everywhere in Ledyard and the roads were impassible.\* Old-field trees found throughout the forest (also called legacy trees) would likely have been damaged and uprooted by these high winds. These large older trees, with large branches low on the stem 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 were along stonewalls. These trees served as a seed source for the present forest. There is little evidence of any of these trees and the present overstory trees in all the stands are approximately the same age.

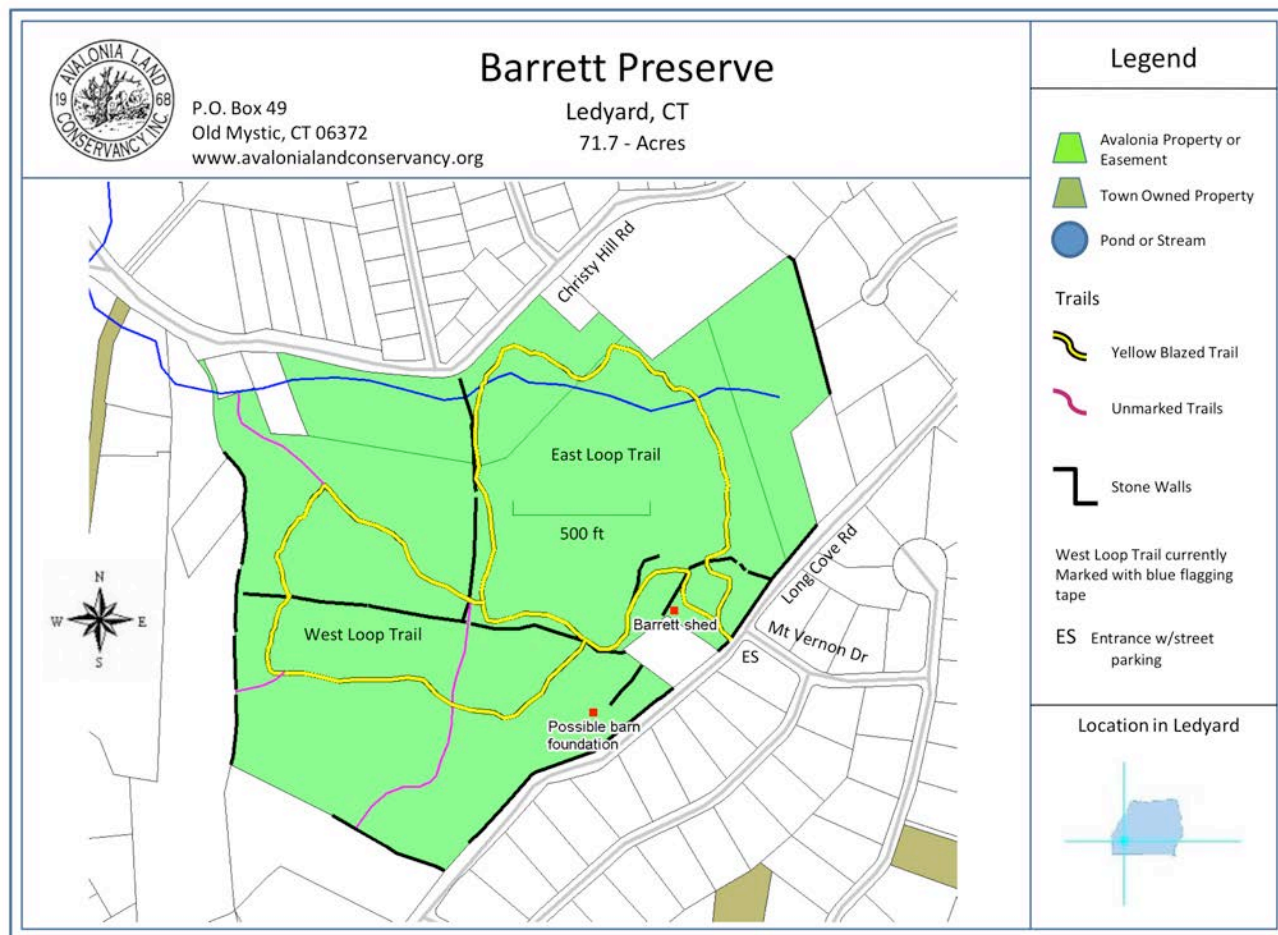
A fire burned a portion of the area in 1989. Many of the trees were damaged or killed and now this burned area has regenerated with mainly black birch. This fire burned through sections of stand 1 and through all of stand 3. The trees in stand 3 were badly damaged and most are classified as unacceptable growing stock with black birch saplings and small poles in the understory. Sections of stand 1 show evidence of the fire but the damage was not as severe and most of the trees were not permanently damaged.

#### Public use resources

The property is open to the public for all standard Avalonia passive recreational activities. Bicycle riding and horseback riding are not permitted. The property is posted with use restrictions. The Avalonia trail map on the next page shows the hiking trails. This color trail map of the property is available from the Avalonia Land Conservancy web site.

The main hiking trail is a loop trail blazed with yellow vertical blazes. A crossover trail splits the larger loop into two smaller loops. The crossover trail is blazed with yellow dots. Several unmarked trails have been made by others and are unofficial trails not maintained by Avalonia. Most lead to private property.

The only official access point is on 904 Long Cove Road at a driveway cut. Access can be had along Christy Hill Road by cutting through the woods. A property name sign is maintained at the official entry point. This sign has property access restriction and a trail map sign attached to its uprights. It also has a plaque indicating that the property was acquired with the assistance of The Nature Conservancy.



## Natural resources

The Forest Stewardship Plan, Appendix II, describes the natural resources in detail.

The following information was taken from Appendix II.

The property's elevation changes roughly 100 feet, from a low of 150 feet along Christie Hill Road on the northern boundary to a high of 250 feet near the field on Long Cove Road to the southeast.

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

Soils provide nutrients, moisture, and support for trees and other plant life in forest ecosystems. Soils help determine the types of trees and how well they grow on any given site. Soil quality varies greatly with topographic position. Upper slopes are dry and have thin, coarse soils whose nutrients have been

leached to lower slopes. As a result, upper slopes typically have trees of shorter stature that grow slower. Mid-slopes are moderately moist and have moderate soil nutrition 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. Lower slope soils include Ridgebury, Leicester, and Whitman soils. Species composition and growth reflect this topographic soil pattern.

There is an unnamed brook to the north that flows westerly and drains most of the main property. It passes out of the property and enters two small ponds before it flows into Mill Cove on the Thames River. The extreme southern portion of the property drains westerly off the property and through some wetlands before it eventually enters the southerly of the two ponds mentioned above where it flows into Mill Cove and the Thames River. The Thames River flows into Long Island Sound.

There are some wetlands on the property. The soils in the wetlands are poorly drained and are saturated for a significant portion of each year. Most of the wetland soils (aka hydric soils) on the property are occupied by forest. Forested wetlands prevent floods by slowing water runoff during storm periods, absorb and store sediment and nutrients that would otherwise harm downstream water bodies, store and recharge groundwater during dry periods, and provide excellent wildlife habitat.

#### ANIMALS, FISH, AND BIRDS

There are no known endangered species on the properties. The predominant large animals on site are whitetail deer which pass through the properties regularly. Most of the food supply consists of mast. Smaller animal tracks are rare but there are likely to be small animals around the brook and other wetlands. The woods support species of birds that need mature forests.

The Forest Stewardship Plan states: “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, ledges, forested wetlands, stream banks, fields, brush, 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.

Like most properties in southern New England, transient deer populations are evident by herd paths, droppings, scrapes and rub lines. This population, for the most of the area is high and a burden to the forest because of over-browsing of native plants. A high deer population can significantly impact regeneration of native plant life, especially oak trees.

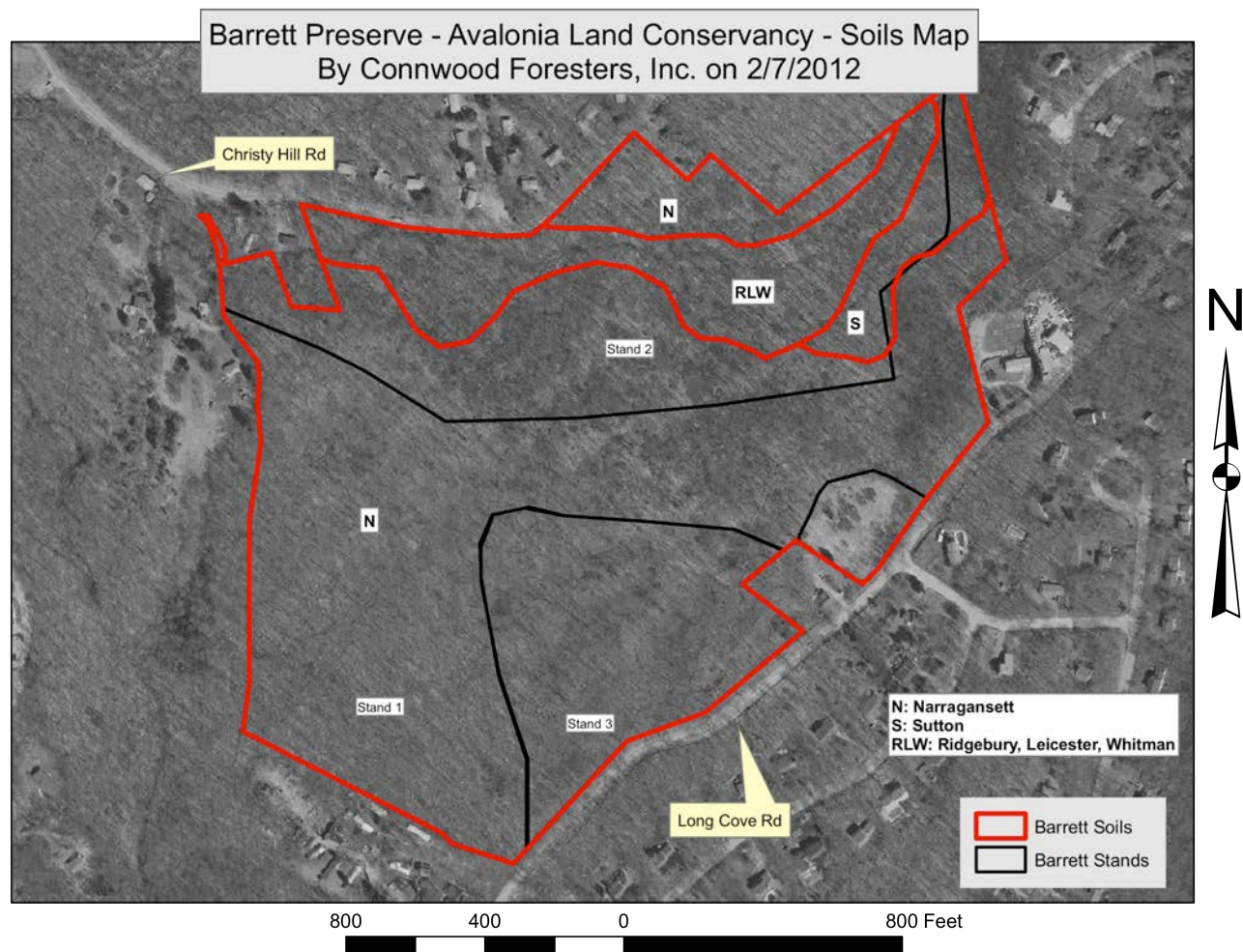
#### SOILS AND BEDROCK GEOLOGY

The bedrock geology underlying all of the property is Potter Hill granite gneiss except for the far NW tips of the property which are a porphyritic phase of Potter Hill granite gneiss. Potter Hill granite gneiss



is light pink to gray, weathering to tan. It has fine to medium grains and is a well foliated gneiss. The porphyric phase is similar but is light to medium gray and spotted. This is part of the Avalonian Terrane/Avalonian anticlinorium. The Forest Stewardship Plan, Appendix II, has maps and a discussion of the soils and surficial geography of the properties. Included in this appendix is a “Custom Soil Resource Report for State of Connecticut, Avalonia Forest Productivity.”

The soils map is reproduced on the next page. Three soil types are present on the property. There is a strip of Narragansett soil along the north side with a strip of Ridgebury, Leicester, Whitman soil below that. Some Sutton soil is present in the NE corner. These soils are under stand 2 and a small portion of stand 1. The bulk of the property, under stands 1 and 3, has Narragansett soil. The properties of these soils are described in Appendix II.



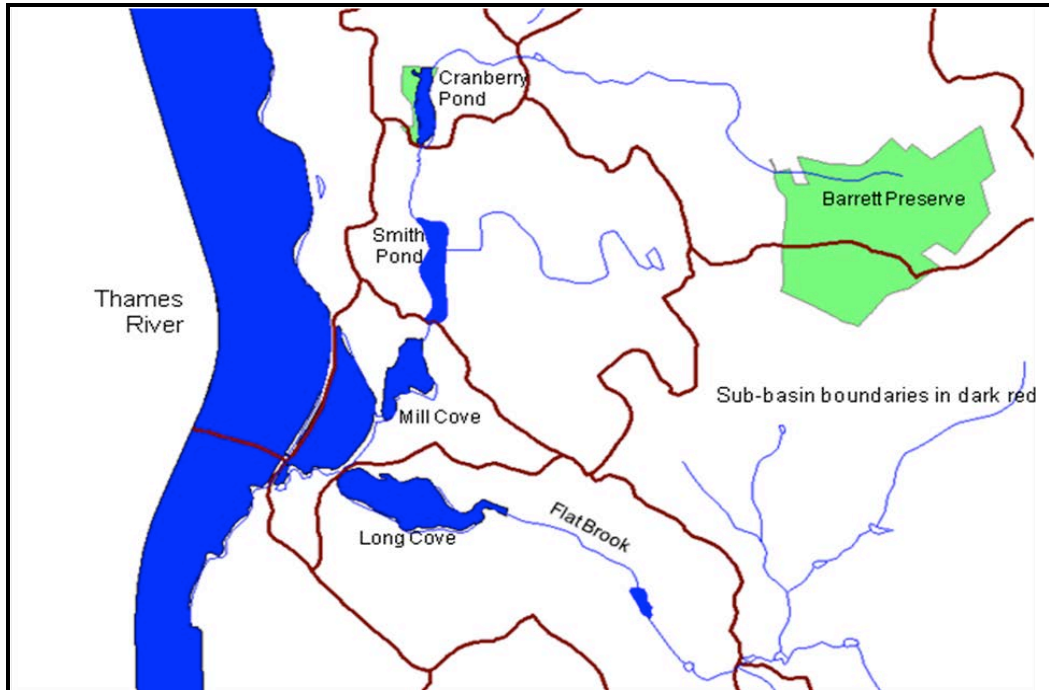
## HYDROLOGIC FEATURES

There is an unnamed brook to the north that flows westerly and drains most of the main property. It passes out of the property and enters two small ponds before it flows into Mill Cove on the Thames



River. The extreme southern portion of the property drains westerly off the property and through some wetlands before it eventually enters Flat Brook and flows to Long Cove and then Mill Cove and the Thames River. The Thames River flows into Long Island Sound.

There are some wetlands 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 water bodies requires a permit from Ledyard's Inland Wetlands Commission.



## SPECIAL FEATURES AND CULTURAL RESOURCES

The trail map included previously shows the location of stonewalls on the property. These are the primary cultural features. There is also a building foundation located on the south side near Long Cove Road. Also on the property is a small shed located in the NW corner of the entrance field. This shed was repaired in 2010 with a new roof and some lower wall repairs. It was also repainted then. The shed is used for storage of wood and some equipment. It is one of the few structures on Avalonia properties. Photos of some of the property features are on the next page.



Area of possible old barn foundation. There is an overgrown road from Long Cove Road to the site.



Barrett Shed





Two views of the entrance field



Entrance Sign

## MANAGEMENT OBJECTIVES

### Stewardship policies

Avalonia Land Conservancy Fee Land Stewardship Principles were approved on December 16, 2009 and the document is available at the Conservancy's office on Hatch Street in Mystic, CT. This document sets forth the general principles governing stewardship of all Avalonia properties. The document or any approved successor is hereby incorporated as part of this management plan.

### Protection

As with all Avalonia properties, the exterior boundaries of these preserves shall be marked with approved Avalonia Land Conservancy boundary signs following the guidance given in Avalonia stewardship policies.

An entrance sign is currently in place and shall be maintained or replaced as necessary to mark the entrance.

An annual walk around the boundaries of the properties is required to ensure that boundary signs are in place and that there are no intrusions. Other surveillance should take place using due vigilance on occasional hikes on the properties.

All motorized vehicles are prohibited on the properties except for the field near the entrance which is available for maintenance activities and parking for special events.

The property is open to the general public. Visitor control consists only of posted entrance signs giving accepted activities on the properties. Persons found in violation of these restrictions on use may be asked to leave. If significant problems persist, visitors may be cited for trespass and asked not to come back.

Protection of special natural and cultural features has not been an issue to date. The features will be monitored for damage in the future to detect problems. Consideration should be given to removing downed trees from stone walls to protect them from further damage.

### Maintaining properties appearance

There is a mown field near the property entrance that shall be mowed annually. No mowing should take place from April through August except for the mown paths through the field. Trails should be maintained clear of deadfalls on routine hikes through the property. Significant deadfalls should be reported to the Ledyard Town Committee for cleanup. Trash has been a problem along the Christy Hill Road boundary and an annual cleanup is recommended. There are significant invasives along the boundary on the Long Cove Road side. Long term control of these plants is a low priority objective.

### Public use

The property is open to the public and hiking trails are maintained for the use of visitors. Motor vehicles, bicycle riding, and horseback riding are not permitted. Hunting and the use of firearms on the property including bow hunting and target practice are not permitted. Camping is not allowed. Dogs must be kept leashed. Visitors are not allowed to pick vegetation or disturb wildlife excessively. Otherwise, the properties are open to all passive recreational activities. There are no fishable streams on the property.

Routine visitor parking is available along Mount Vernon Drive across from the entrance on Long Cove Road. Special event and maintenance parking is available in the mown field by the entrance. A chain is to be maintained across the entrance driveway to the mown field at other times to discourage parking in the field.

Rules-of-use signs are posted at the entrance and may be posted near other unofficial entrances. These signs shall be maintained in the future. Trails are blazed in yellow as shown on the trail map. The blazes are approximately 2 inches wide by 6 inches tall and are rectangular. Blazes on the crossover trail are circles about 3 inches in diameter. Blazes need to be refreshed every 3 – 5 years.

There are no interpretive signs on the property at present. Such signs may be added in the future if found appropriate.

Trail maps are available on the Avalonia website: <http://www.avalonialandconservancy.org>. Trail map signs are posted at the entrance and at trail intersections. These signs shall be replaced as necessary.

Special events are permitted on the property at the discretion of the Ledyard Town Committee or the Board of Directors. Events to date have consisted of guided hikes on the properties.

### Enhancing wildlife habitat(s)

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, ledges, forested wetlands, stream banks, fields, brush, 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.

Like most properties in southern New England, transient deer populations are evident by herd paths, droppings, scrapes and rub lines. This population, for the most of the area is high and a burden to the forest because of over-browsing of native plants. A high deer population can significantly impact regeneration of native plant life, especially oak trees.

Shrub (brush) habitat is present in some of the fields. 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 shrub habitat on this property would help offset this regional decline and increase the diversity of bird species that frequent the property.

There are no specific habitat problems on the property. General considerations are discussed further in Appendix II.

### Controlling invasive species

Unfortunately, there are scattered invasive shrubs (barberry and multi-flora rose) and vines (bittersweet and grape) on the property – particularly in moist soils and on forest edges. 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, interfering with tree regeneration and other native understory vegetation. Most of the invasives on the property are located either in moist areas or near human activity (fields).

Control methods include mechanical and chemical methods. In a shady forest, cutting a vine is enough to kill it. Invasive shrubs are not so easy. Pulling the invasives out by the roots can be effective, but extremely difficult and labor intensive. Yearly cutting back of the aboveground stems will keep the invasives under control, and perhaps kill them after a few years. The most effective control method is to cut the invasive and follow with an herbicide treatment during the growing season. An herbicide (Roundup) should be applied to the freshly cut stub and/or green foliage. For more information, visit the Invasive Plant Atlas of New England: [invasives.ecb.uconn.edu/ipane](http://invasives.ecb.uconn.edu/ipane) or [ct.nrcs.usda.gov](http://ct.nrcs.usda.gov).

### Erosion Control

Erosion has not been a significant problem and no action is needed.

### Productive Uses and Forest Health

Appendix II is the Forest Stewardship Plan commissioned by Avalonia and created by Connwood Foresters, Inc. It contains detailed descriptions of each of the three stands identified. The following are the recommendations by stand from that plan.

#### **Stand 1**

1. An easily accessible area of Stand 1 could be used as a scientific forestry demonstration area to create three small (less than 1-acre) canopy openings to encourage young tree growth and thereby improve forest diversity. Some fenced deer exclosures could be used to ensure the successful regeneration of young oak trees. At least one canopy opening could abut a trail and have signs explaining the forestry practices.
2. Construction of a brush pile within or abutting each canopy opening would provide wildlife cover and utilize some of the woody debris created by the cut.



3. Three large diameter trees (UGS) should be girdled in or near each of the canopy openings to increase the density of standing dead trees for the benefit of wildlife.

## **Stand 2**

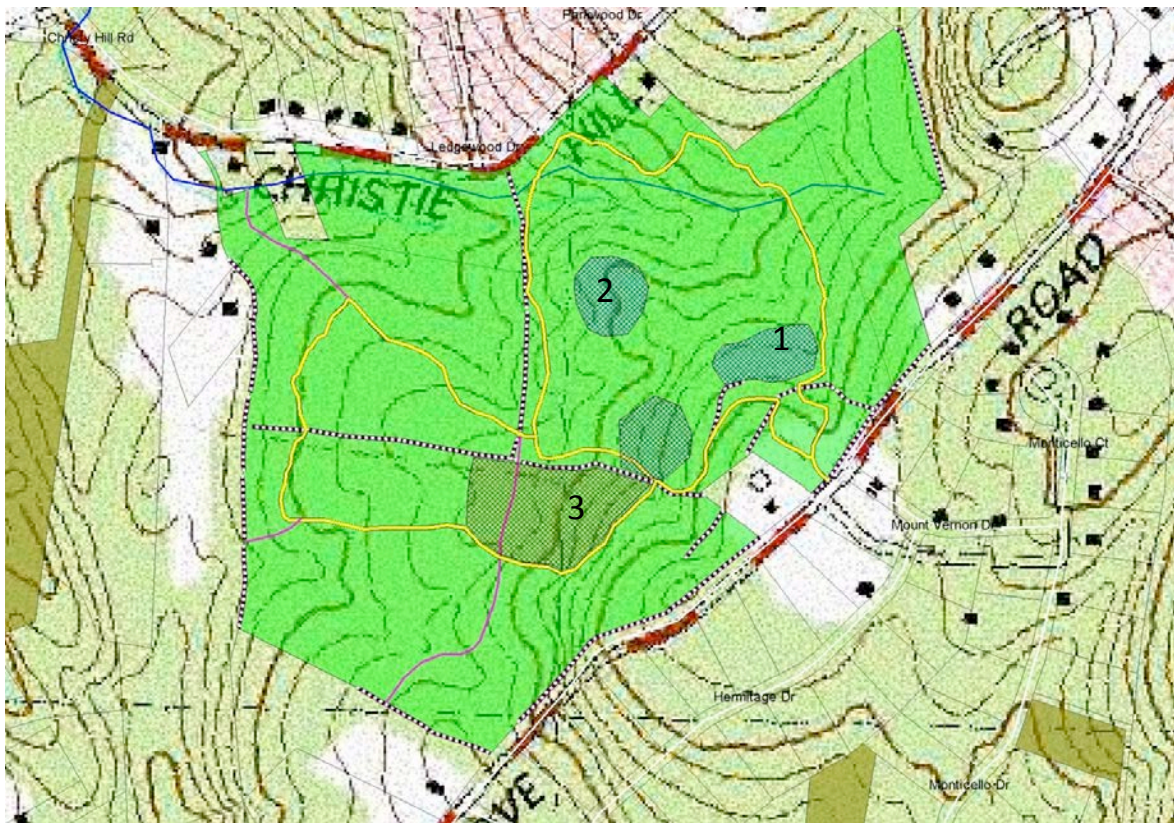
1. An easily accessible area of Stand 2 could be used as a scientific forestry demonstration area to create three small (less than 1-acre) canopy openings to encourage young tree growth and thereby improve forest diversity. Some fenced deer exclosures to ensure the successful regeneration of young oak trees. At least one canopy opening could abut a trail and have signs explaining the forestry practices.
2. Construction of a brush pile within or abutting each canopy opening would provide wildlife cover and utilize some of the woody debris created by the cut.
3. Three large diameter trees (UGS) should be girdled in or near each of the canopy openings to increase the density of standing dead trees for the benefit of wildlife.
4. Scarification of the soil would also help to regenerate the tulips that are large, over-mature and beginning to decline in vigor.

## **Stand 3**

1. An easily accessible area could be used to create two or three small (less than 1-acre) canopy openings to encourage oak regeneration and thereby improve forest diversity. Some fenced deer enclosures could be used to ensure the successful regeneration of the young oak trees. At least one canopy opening could abut a trail and have signs explaining the forestry practices.
2. Construction of a brush pile within or abutting each canopy opening would provide wildlife

In 2014 Avalonia created three forest openings based on this plan. Connwood Foresters were hired to create two 1-acre clear-cuts (locations 1 and 2 below). Some slash was left on the ground and several larger oak trees were left but girdled so as to create snags, but they removed most of the cut trees. Avalonia volunteers cut most of the small black birch trees and other smaller trees in a 3-acre area (location 3 below), leaving the fallen trees in place and a number of larger oaks for regeneration purposes. A total of four brush piles were created for wildlife in the 3 cut areas. Signage was installed explaining how the logging would improve forest diversity and wildlife habitat.

Avalonia will continue to monitor the results of creating the forest openings. Preliminary results after two summers of drought show some regeneration. In Site 1 and Site 2 there has been a great deal of resprouting of mountain laurel (*Kalmia latifolia*) and high bush blueberry (*Vaccinium corymbosum*). The plan is to maintain Site 1 clear-cut as a shrub thicket by selectively removing young, emergent trees.



### Scientific and educational activities

These are permitted by our deed. Singing bird surveys are planned for spring 2017 to see whether the small clear-cuts have attracted those birds dependent on this kind of habitat.

### Response to large natural disasters

The forestry survey indicated that the property is highly likely to experience significant windthrow in a major storm due to the types of trees and soil present. This is particularly likely in stand 2 which is the wettest. There is little young growth at present so it will take a significant time for the forest to regenerate. The recommendations under Productive Uses and Forest Health are to mitigate against loss of all growth in a high wind situation.

The first response to a natural disaster will be to clear away trees and debris from the hiking trails. Logging is permitted to recover trees knocked down or damaged in a major disaster.

### Special management considerations

There are no special management considerations at this time.

## IMPLEMENTING THE PLAN

### Recurring and occasional requirements

Trail hikes by one or more members of the Ledyard Town Committee should take place at least once each month to look for and clear deadfalls from the trails and to look for other problems. Our phone number is posted at the entrance so that visitors can contact us for resolution of serious problems such as downed trees, graffiti, dumping, or other damage to the property.

### Annual obligations

A boundary walk around the combined outside perimeter of the three properties is required to look for intrusions and to ensure that the boundary is marked with Avalonia Land Conservancy signs.

### Short term plan (1 – 5 years)

Continue to monitor clear-cut areas for changes.

Work on controlling the extensive areas of Japanese Barberry along the stream.

Mow the field annually and keep the area under the dogwoods free of invasives.

### Long term plan (5+ years)

Determine if additional cleared sites are needed.

Contract for a new forest stewardship plan after 2023.

### Schedule for revising this plan

This plan shall be reviewed at least every five years and updated as necessary.

## APPENDICES

### I. Legal documentation

Zoning map for property and surrounding area is available at the Ledyard Town Hall or online at <http://www.ledyardgis.com>. The property is zoned R-40, medium density residential as of 2009.

Deeds and Restrictions follow

### II. Forest Stewardship Plan