



**MOUNT  
PISGAH  
OPEN SPACE**

**DURHAM,  
CONNECTICUT**



**EASTERN CONNECTICUT  
ENVIRONMENTAL  
REVIEW TEAM  
REPORT**

**EASTERN CONNECTICUT  
RESOURCE, CONSERVATION AND DEVELOPMENT AREA, INC.**

**MOUNT PISGAH OPEN SPACE**

# **DURHAM, CONNECTICUT**



## **ENVIRONMENTAL REVIEW TEAM REPORT**

**Prepared by the  
Eastern Connecticut  
Environmental Review Team**

**Of the**

**Eastern Connecticut Resource Conservation and Development Area, Inc.**

**For the**

**Conservation Commission  
Durham, Connecticut**

**January 2007**

**Report #597**

# **ACKNOWLEDGMENTS**

This report is an outgrowth of a request from the Durham Conservation Commission to the Connecticut River and Coastal Conservation District (CRCCD) and the Eastern Connecticut Resource Conservation and Development Area (RC&D) Council for their consideration and approval. The request was approved and the measure reviewed by the Eastern Connecticut Environmental Review Team (ERT).

The Eastern Connecticut Environmental Review Team Coordinator, Elaine Sych, would like to thank and gratefully acknowledge the following Team members whose professionalism and expertise were invaluable to the completion of this report.

The field review took place on Tuesday, March 14, 2006.

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I would also like to thank Brian Ameche and Adam Moore of the Durham Conservation Commission for their cooperation and assistance during this environmental review.

Prior to the review day, each Team member received a summary of the proposed project with location and soils maps. During the field review Team members were able to view additional maps and were given more information. Some Team members made separate or follow-up visits to the site, while others conducted a map review only. Following the review, reports from each Team member were submitted to the ERT coordinator for compilation and editing into this final report.

This report represents the Team's findings. It is not meant to compete with private consultants by providing site plans or detailed solutions to development problems. The Team does not recommend what final action should be taken on a proposed project - all final decisions rest with the town. This report identifies the existing resource base and evaluates its significance to the proposed use, and also suggests considerations that should be of concern to the town. The results of this Team action are oriented toward the development of better environmental quality and the long term economics of land use.

The Eastern Connecticut RC&D Executive Council hopes you will find this report of value and assistance in the development of a management plan for this town owned property.

If you require additional information please contact:

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# **INTRODUCTION**

## **Introduction**

The Durham Conservation Commission has requested Environmental Review Team (ERT) assistance in reviewing the town-owned Mount Pisgah Open Space Property.

The Mount Pisgah Property is 180 acres in total size located on Pisgah Road and Cream Pot Road. It is made up of 3 parcels, with the most recent piece acquired in 2003. The property had been cut over for charcoal in the late nineteenth century and also used for pasture. The site is presently forested and contains a portion of the blue blazed Mattabesett Trail. Chalker Brook flows through the property. The property abuts a significant amount of other conservation land.

## **Objectives of the ERT Study**

The Conservation Commission is seeking to write a stewardship plan for this parcel and the ERT report will provide the natural resource information. The Commission has drawn up a preliminary management plan for the parcel and a natural resource inventory is listed as an important first step. The natural resource information provided by the Team will serve as the basis for management. Major areas of information requested include:

- Soils
- Topography and geology
- Hydrology and wetlands
- Fisheries habitat
- Forestry potential
- Recreation and trail development
- Educational opportunities
- Archaeological and historical significance.

## **The ERT Process**

Through the efforts of the Durham Conservation Commission this environmental review and report was prepared for the Town of Durham.

This report provides an information base and a series of recommendations and guidelines which cover the topics requested by the town. Team members were able to review maps, plans and supporting documentation provided by the applicant.

The review process consisted of four phases:

1. Inventory of the site's natural resources;
2. Assessment of these resources;
3. Identification of resource areas and review of plans; and
4. Presentation of education, management and land use guidelines.

The data collection phase involved both literature and field research. The field review was conducted Tuesday, March 14, 2006 and some Team members made separate and/or additional site visits. The emphasis of the field review was on the exchange of ideas, concerns and recommendations. Being on site allowed Team members to verify information and to identify other resources.

Once Team members had assimilated an adequate data base, they were able to analyze and interpret their findings. Individual Team members then prepared and submitted their reports to the ERT coordinator for compilation into this final ERT report.

## **Mount Pisgah**

### **Preliminary Management Plan**

**Donor/Seller:** Dionigi Arrigoni

**Size:** 180 acres

**Location:** Pisgah Road, Dead Hill Road and Cream Pot Road

**Acquisition date:**

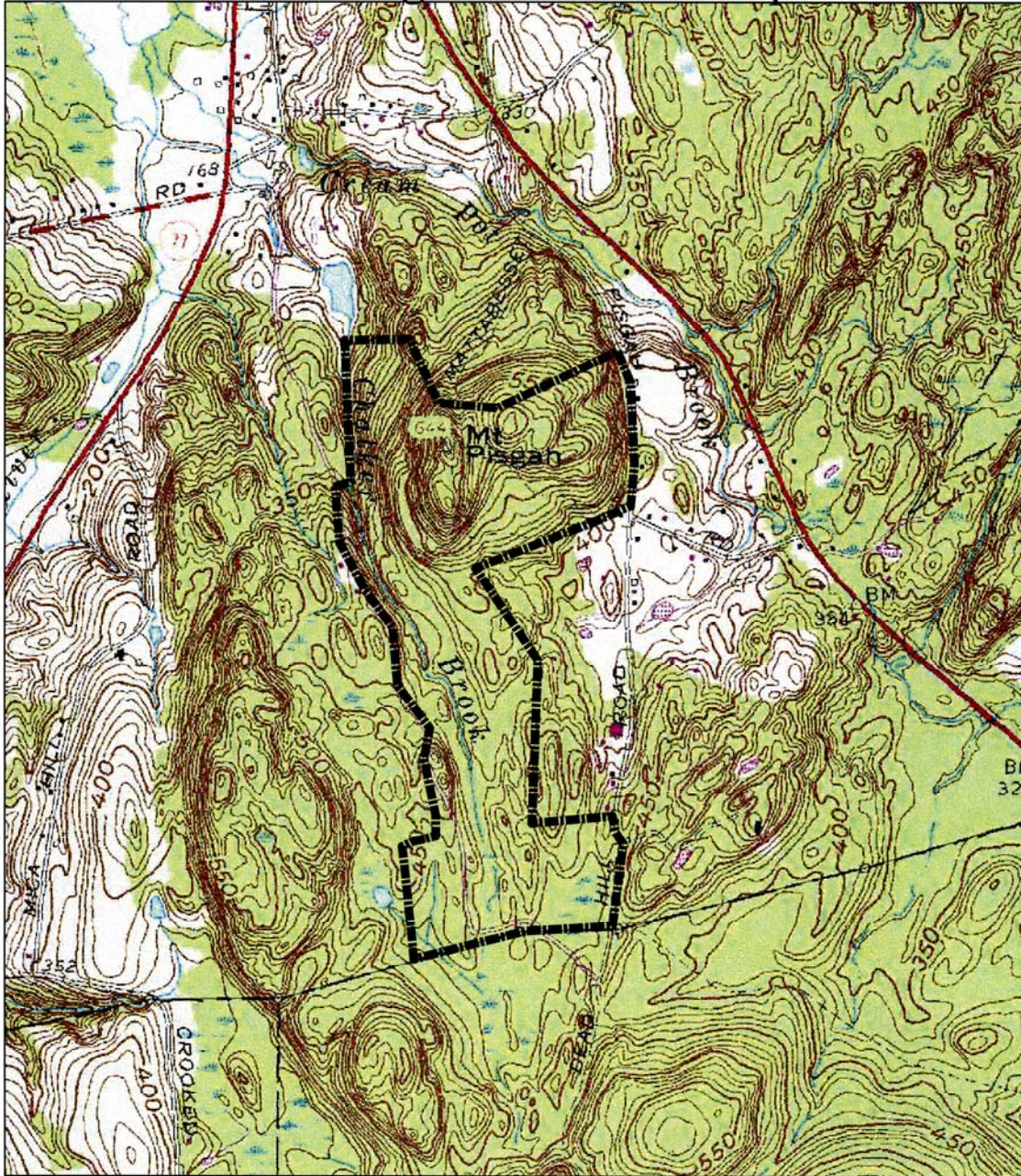
**Purchase Price:**

1. Conduct natural resource inventory (flora, fauna, hydrology, soils, etc.) to serve as basis for management plan.
2. Prepare a management plan that addresses public access, trails, parking, hunting, viewshed management, forest management, wildlife habitat and the like.
3. Identify abutters and let them know that a management plan is being prepared and seek input.
4. Consult town officials and other town boards in the preparation of the management plan.
5. Obtain surveys and other maps on record at town hall for inclusion in management plan.
6. Determine if there are any deed restrictions, easements, and note these in the management plan.
7. Locate and mark property boundaries and post as Durham Open Space. Address any encroachment issues.
8. Work with Connecticut Forest and Park Association on the maintenance of the Mattabesett Trail on Mount Pisgah.
9. Seek to develop loop trail or trail network for hiking and seek to allow such other uses as cross-country skiing, non-motorized bicycling, and horseback-riding if possible.
10. Designate a volunteer steward for the property.
11. Maintain any fences, gates, roads and other structures.



12. Maintain long-distance views from summit of Mount Pisgah; seek to create new viewsheds where possible.
13. Prohibit motor vehicle access except on any designated roads or parking areas, and except for property management or emergency purposes, and post property accordingly.

# Mt. Pisgah Location Map

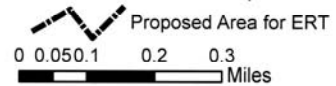


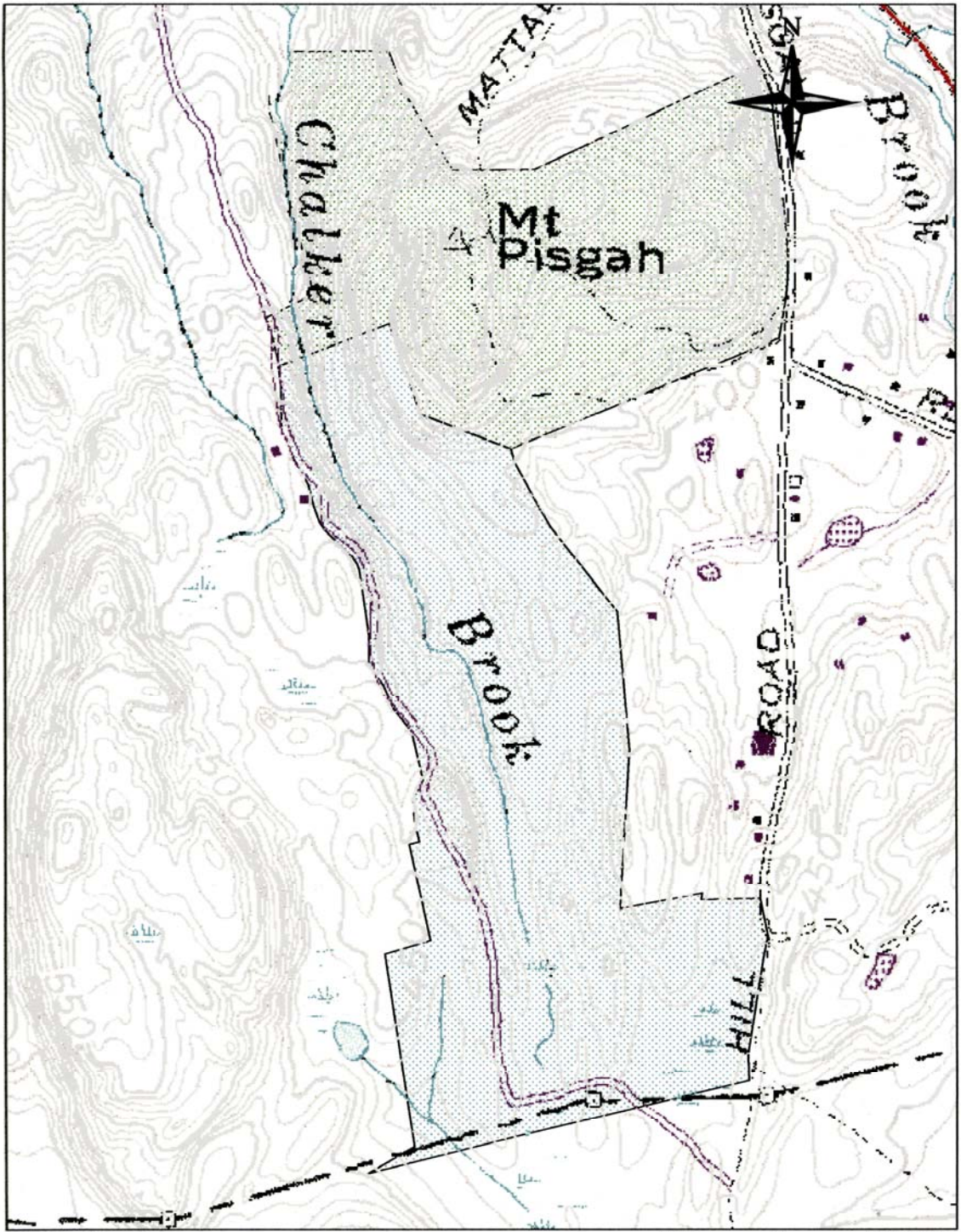
N This map was prepared by the ERT Assistant for the Connecticut Environmental Review Team.  
This map is for educational use only.  
It contains no authoritative data.  
November 2005.

The Connecticut Environmental Review Team

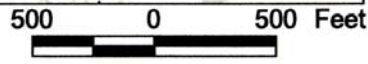


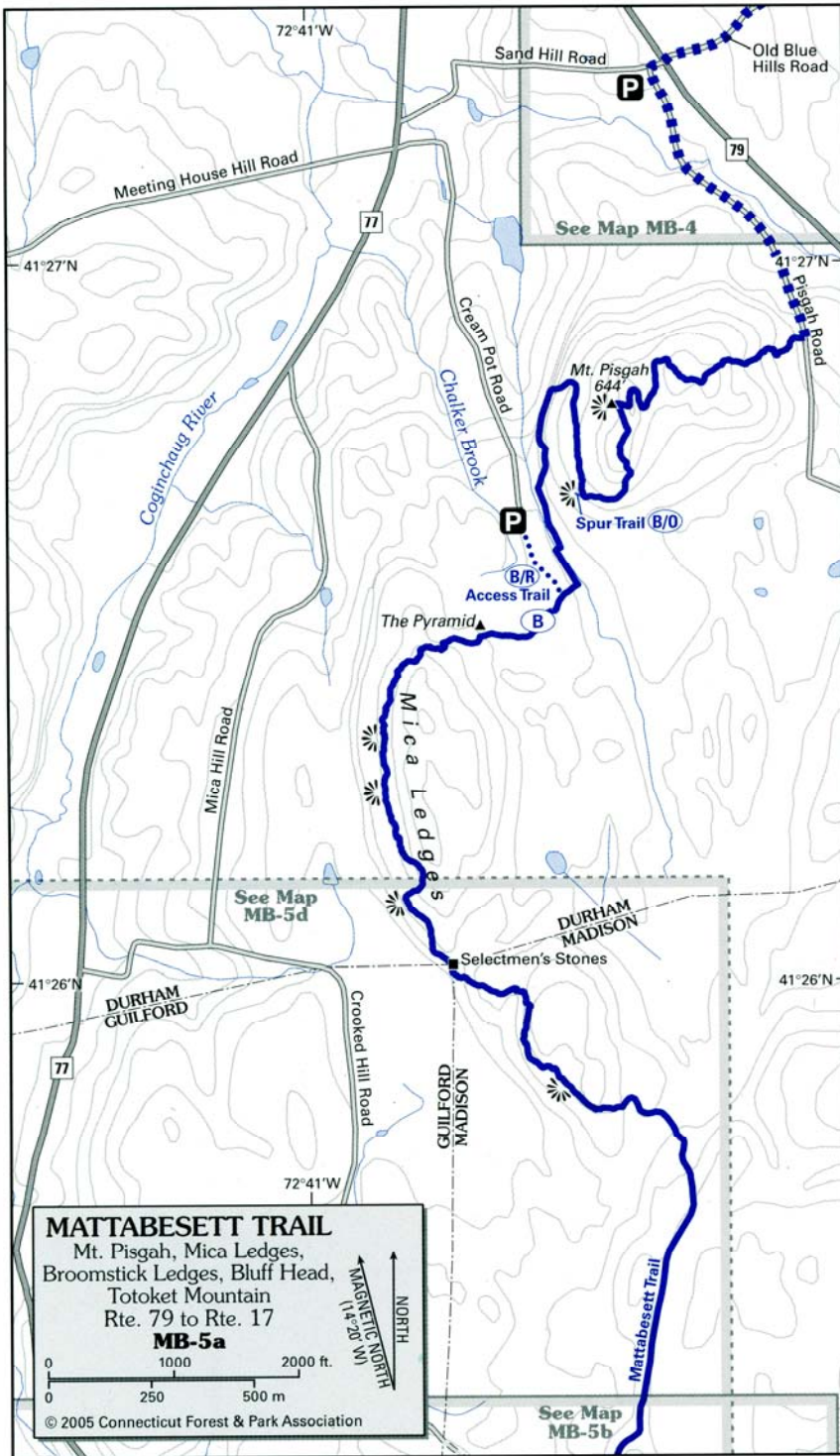
Durham, CT





Mt. Pisgah  
Town of Durham, CT





# **TOPOGRAPHY AND GEOLOGY**

## **Topography**

The Mount Pisgah Open Space tract is in the southern part of Durham; its southern boundary is actually at the boundary with the Town of Guilford. It has a fairly moderate to rough topography (see Figure 1). Relief is slightly greater than 400' within the tract and near 500' if the nearby adjacent area (Coginchaug River Valley) is considered. Mount Pisgah has an elevation of 644' above sea level; Chalker Brook has an elevation of about 240' where it flows north out of the open space parcel; the Coginchaug River has an elevation of less than 160' just northwest of the parcel. The local area has a distinct north-south topographic grain. Roughly north-south elongated hills, many oval shaped in map view, are flanked by rather steep sided drainages and saddles. Immediately to the southeast the topographic grain changes to more northeast-southwest. Rather concentric shaped hills, in map view, are flanked by northeast-southwest oriented drainages and saddles. To the north and west the topography drops dramatically into Connecticut's central valley (see Bell, 1985, Ch. 2), such that there is a magnificent vista toward the north and west from the top of Mount Pisgah (see figures 2 and 3). The central valley is host to several rivers: the Connecticut River flows southeastward through the northern part of the valley and the Quinnipiac River in the southern part. The Coginchaug River flows northward in the southeastern part of the central valley and it is into the Coginchaug River valley that the vista (Figure 2 and 3) begins. The topography of the central valley is composed of rolling hills and a prominent ridge, the Metacomet Ridge, which runs practically the length of the valley and into Massachusetts. The change in topographic grain is a reflection of the underlying bedrock geology.

## **Geology**

The open space parcel is near one of the major geologic discontinuities in the state of Connecticut: the Eastern Border Fault. The fault separates the Mesozoic aged sedimentary and volcanic rocks of the Hartford Basin on the west from Paleozoic aged metamorphic and igneous rocks that form the eastern highlands (see Bell, 1985 and Rodgers, 1985).

The open space parcel is part of an area of topography with a north-south grain. It is underlain by metamorphic rocks assigned by Rodgers (1985) to the Collins Hill Formation which is thought to be Ordovician in age. Mikami and Digman (1959) mapped the area as belonging to the Bolton Schist, which it does resemble. The rocks are composed of quartz-feldspar-mica schist, mica poor schist, and calc-silicate gneiss along with weakly foliated pegmatite. During the ERT field excursion it was noted that pegmatite forms many of the knobby hills in the area along with the higher portions of Mount Pisgah. The pegmatite clearly intruded into the schists and gneisses of the Collins Hill and is weakly foliated. This suggests that the age of intrusion coincided with the waning phases of the last metamorphic event of the area, dated around 275 million years ago (Permian age) by Wintsch et al., 2005. The Collins Hill formation was likely composed of shales, some of which were calcareous, and volcanic rocks before it was metamorphosed.

Immediately to the southeast of the open space parcel the topographic grain changes to northeast-southwest with round-topped, concentric shaped hills. This area is underlain by the Middletown Formation of Ordovician age (Rodgers, 1985). It is composed of plagioclase gneiss with subordinate amphibolite gneiss and anthophyllite bearing gneiss (Bernold, 1976).

To the west and north, the central valley lowland, bounded on its east side by a normal fault (hanging wall down) zone, is underlain by Mesozoic aged sedimentary rocks with three interlayered basalt lava flows (Simpson, 1969, Rodgers, 1985). The sedimentary rocks, composed of shale, sandstone and conglomerate, are relatively easy to erode and hence form the lowland areas in the state. The basalt lava flows, however, are more resistant to erosion and form the high ridges and mountains within the central valley such as Meridan Mountain, Higby Mountain, and others. The sedimentary rocks formed in a fault (Eastern Border Fault) bounded depression that actively sank while sand and gravel washed into it. Sand and gravel was derived from erosion of bedrock exposed to the east of the bounding fault.

Most of the open space parcel is mantled by a thin veneer of glacial till, but many outcrops of bedrock exist where the till was either never deposited or has since been eroded. Till is unsorted debris deposited by glacial ice; in this case deposition occurred near the end of the last Ice Age, ~20,000 years ago. One small area of stratified sand and gravel exists along the northeastern boundary of the parcel. Simpson (1968) maps the deposit as a kame delta, deposited by melt-water streams that fed a small pond in the Cream Pot Brook drainage. Cream Pot Brook today flows toward the west. Glacial meltwater could not flow west because remnant glacial ice filled the valley. Hence a small lake that drained through a gap to the east (see Fig. 1) formed against the ice. The pond level was controlled by a spillway (gap) elevation of about 390 feet above sea level and the delta built eastward into the pond. The pondward edge of the delta is outlined on Figure 1. The delta nearly filled-in the pond before the remnant ice melted and the pond drained. Most delta tops are characterized by flat tops just slightly higher than the lake level. The Cream Pot Brook delta top is, however, more irregular because of three things. 1. Two till covered bedrock knobs stick up above the delta top elevation and were islands in the pond until the delta built around them. 2. Remnant blocks of glacial ice existed during deposition and were covered or surrounded by sand and gravel of the delta. When the ice later melted the sand collapsed into the resulting space creating slightly lower areas on the delta top. 3. Cream Pot Brook has eroded its channel through the deltaic deposit.

## References

- Bell, M., 1985, *The Face of Connecticut*. State Geol. and Nat. Hist. Survey of Connecticut, Bull. 110, 196p.
- Bernold, S., 1976, Preliminary bedrock geologic map of the Gilford Quadrangle, CT. State Geol. and Nat. Hist. Survey of Connecticut, open file report OF 76-1.
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- Rodgers, John, 1985, Bedrock Geologic Map of Connecticut. State Geol. and Nat. Hist. Survey of Connecticut, Atlas Series: Bedrock Geologic Map, 2 sheets.
- Simpson, H.E., 1968, Surficial Geologic Map of the Durham Quadrangle, Middlesex and New Haven Counties, CT. U.S. Geol. Surv. Quad. Map. GQ 756.
- Simpson, H.E., 1969, Preliminary bedrock geologic map of part of the Durham Quadrangle, CT. U.S. Geol. Surv. Open File map 69-257.

Wintsch, R.P., Aleinikoff, J.N., Webster, J.R., and Unruh, D.M., 2005, The Killingworth Complex, a middle and late Paleozoic magmatic and structural dome. *In* Skinner, B.J., and Philpotts, A.R., *Guidebook for Field Trips in Connecticut*, 97<sup>th</sup> N. E. Intercollegiate Geol Conf., p.305-324.

# Mt. Pisgah Location Map

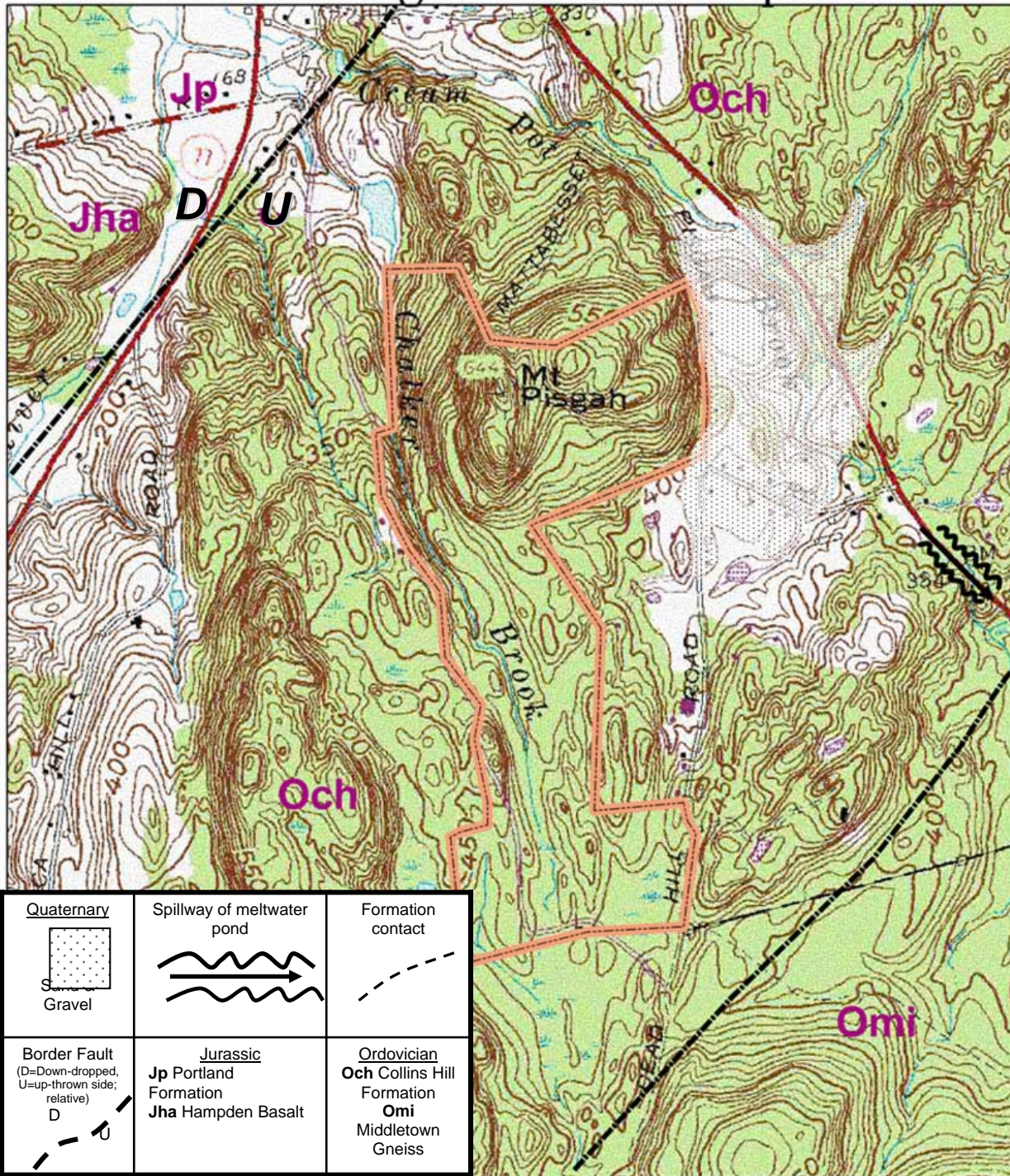


Figure 1: Map of Mt. Pisgah open space parcel, Durham CT, showing bedrock and surficial geology. Because a thin (0-10ft.) veneer of glacial till covers most of the area, only the distribution of sand and gravel is shown on the map.

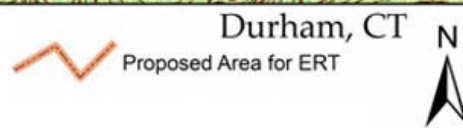




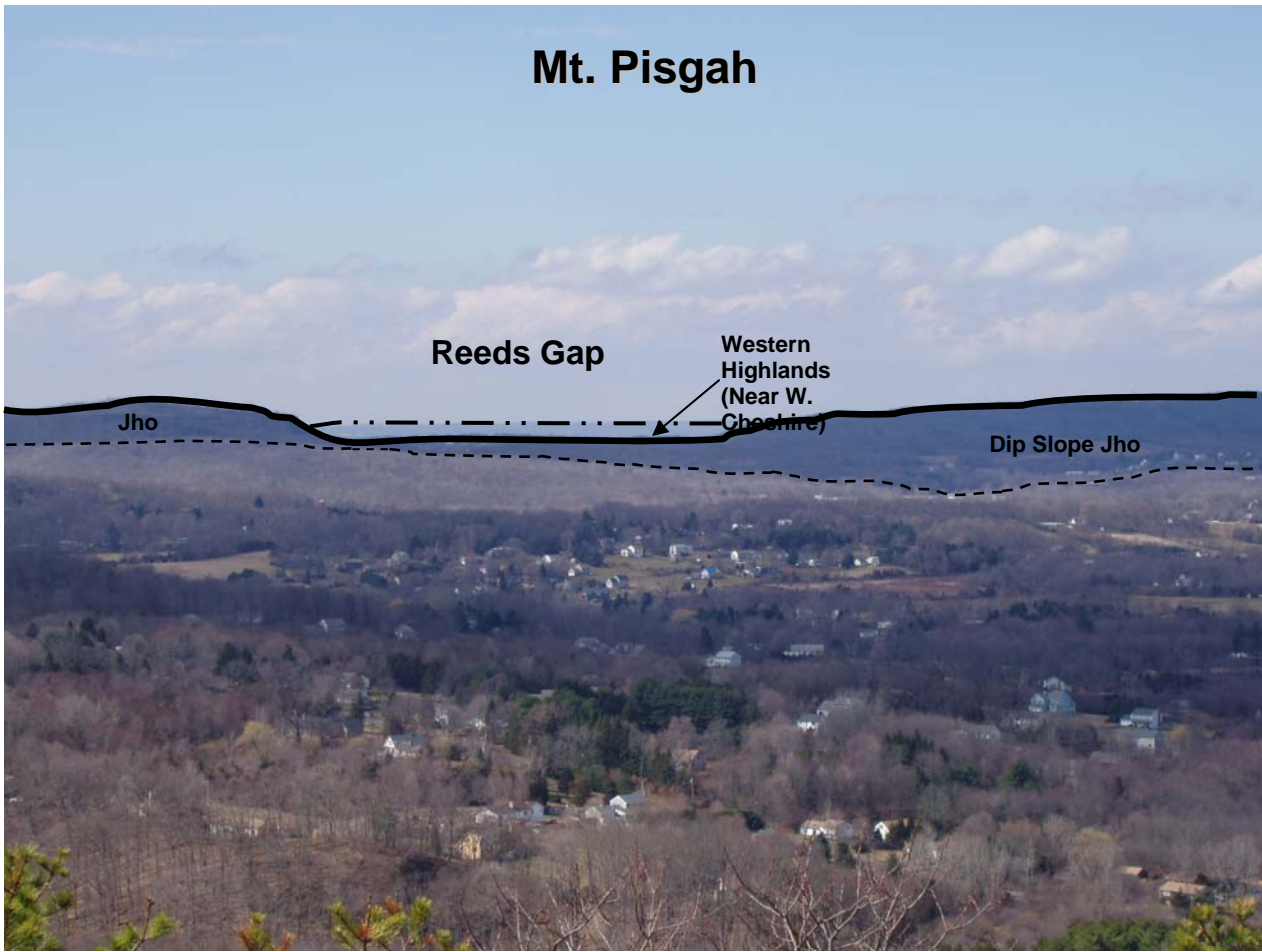


Figure 2. Looking west from the top of Mt. Pisgah towards Reeds Gap and into the eastern part of the Central Valley. The Coginchaug River lies out of view at the base of the drop-off. Rocks in the central valley are both sedimentary and volcanic in origin and Mesozoic (about 210-180 million years) in age. The Metacomet Ridge forms the skyline and in the far distance and through Reeds Gap lies the western edge of the central valley near Cheshire, CT. The hills seen through the gap are probably part of the western highlands and composed of metamorphic rocks of mid-Paleozoic age. (Photo by E. Sych.)



Figure 3. View toward the northwest from the top of Mount Pisgah. The grey hills on the center skyline are Higby Mountain (on the left) and Lamentation Mountain. On a clear day the Hanging Hills of Meridan can be seen to the left of Higby Mountain. The Hartford skyline can be seen on a clear day. The Metacomet Ridge forms the skyline headed north behind Hartford. Possibly Talcott Mountain also is visible on a clear day.

# Mt. Pisgah



Durham, CT

# Mt. Pisgah



## Legend

Abbreviation	Name
Jp	Portland Fm
Jha	Hampden Basalt
Jeb	East Berlin Fm
Jho	Holyhoke Basalt
Och	Collins Hill Fm

Durham, CT



# Legend

## Jurassic

Jp	Portland Fm
Jha	Hampden Basalt

## Ordovician

Och	Collins Hill Fm
Omi	Middletown gneiss

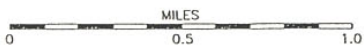
	Strike & dip of bedding in Mesozoic sedimentary rocks
	Formation Contact
	Border Fault
	Strike & dip of foliation in Paleozoic metamorphic rocks

### Symbols Legend:

- Parking Area
- Vista/Overlook
- Wood/Tote Road

### Trail Legend:

- Mattabesett Trail (blue)



UTM Zone 18

Map prepared from USGS Quad sheet: Durham, Conn.

# CONSERVATION DISTRICT REVIEW

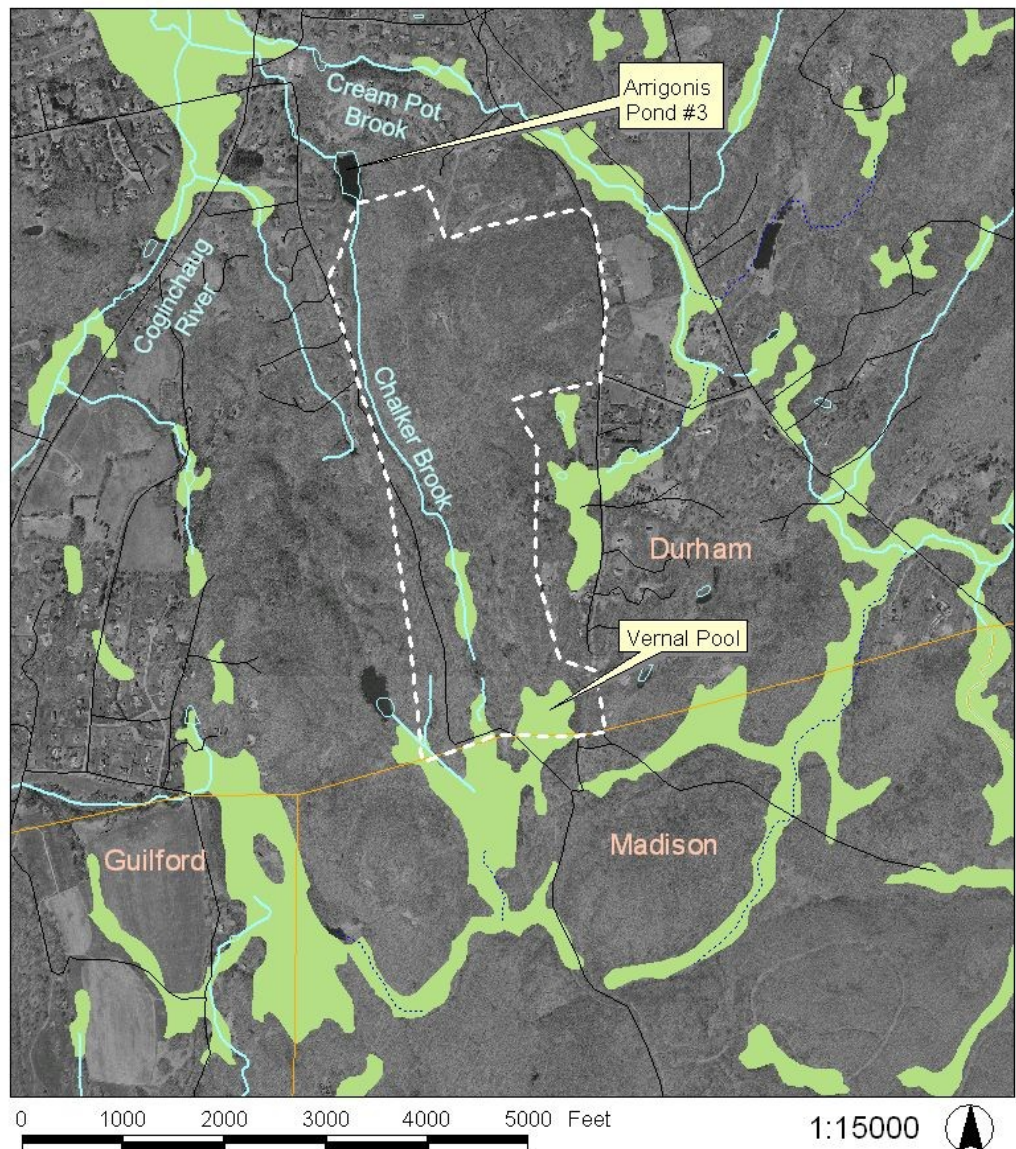
The following are general comments and recommendations regarding the Town of Durham's Mount Pisgah open space property. Information used in this report includes the USDA/NRCS official digital soil survey maps (<http://websoilsurvey.nrcs.usda.gov/app/>); the USDA/NRCS Soil Survey Division Official Soil Series Descriptions; and a site visit conducted on March 14, 2006. This report is advisory in nature and is intended to assist the Durham Conservation Commission with developing an open space management plan.

## CURRENT SITE CONDITIONS

Mount Pisgah is a 180 acre open space property which sits in the southern portion of Durham adjacent to the Town of Madison. The property is bounded by Cream Pot Road to the west and partially by Pisgah Road to the east. Chalker Brook which begins in a headwater wetland to the south, flows north through the western portion of the property, to join with the Coginchaug River to the north. The entire property sits within the Coginchaug River watershed, a subregional drainage basin of the Mattabeset River regional drainage basin, which itself is within the Connecticut River major drainage basin.

In addition to Chalker Brook, other water resources observed on site included a vernal pool area in the south east corner of the property where pond-breeding amphibians (wood frogs) were heard and observed and a broad wooded wetland that extends across the southern property boundary.

**Figure 1.** Chalker Brook originates south of Mount Pisgah in a wetland system that is partially on the property (wetland soils shown in green and streams in blue). The brook flows north across the property through "Arrigonis Pond #3" before joining with the Coginchaug River. Wetland soil boundaries are from the USDA/NRCS soils mapping (1:12,000-scale GIS data).

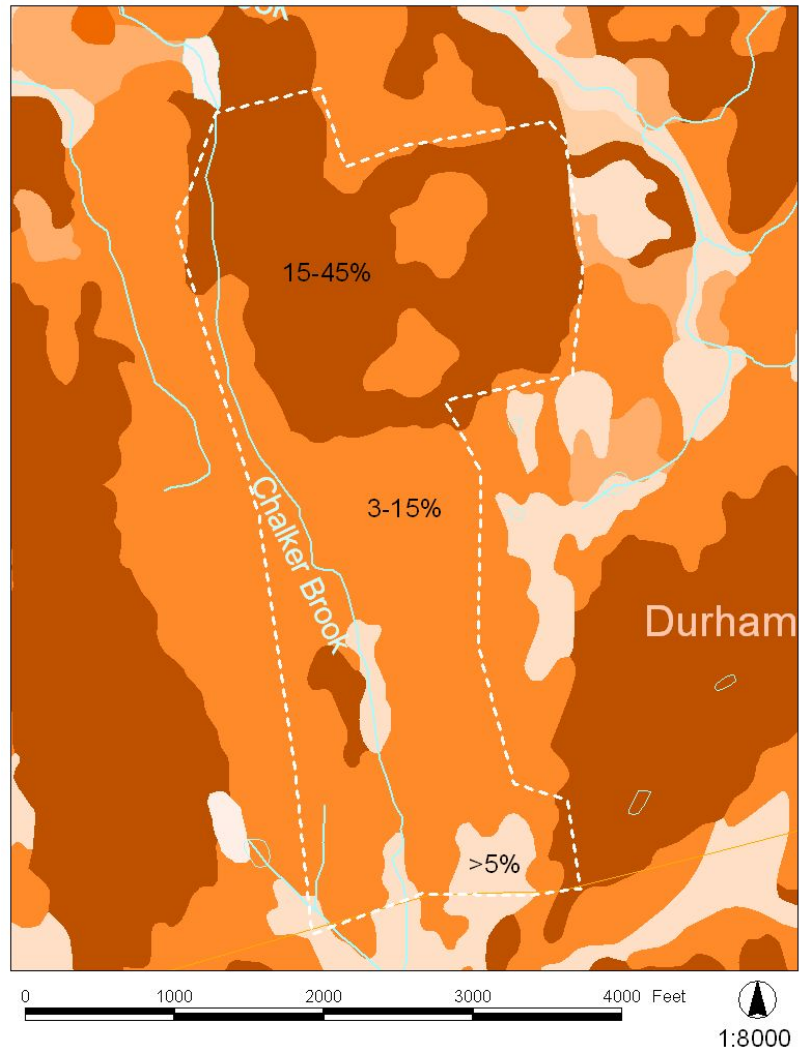


The topography across the property ranges from nearly level to very steep. Slopes associated with the upland portion of the site are shown as gently as 3% and as steep as 45%. Wetlands in the southern portion of the property and associated with Chalker Brook are nearly level, with slopes no greater than 5% (see Figure 2). The high point of the property is at the summit of Mount Pisgah, at an elevation of approximately 570. The low point is at the northwest property boundary at an elevation of approximately 310. The southern wetland complex, which is the headwaters to Chalker Brook sits at approximately elevation 420.

**Figure 2.** Although topography varies across the property, much of the Mount Pisgah open space is moderate to very steep. The minimum and maximum expected slopes are from the USDA/NRCS soils mapping (1:12,000-scale GIS data).

## SOILS

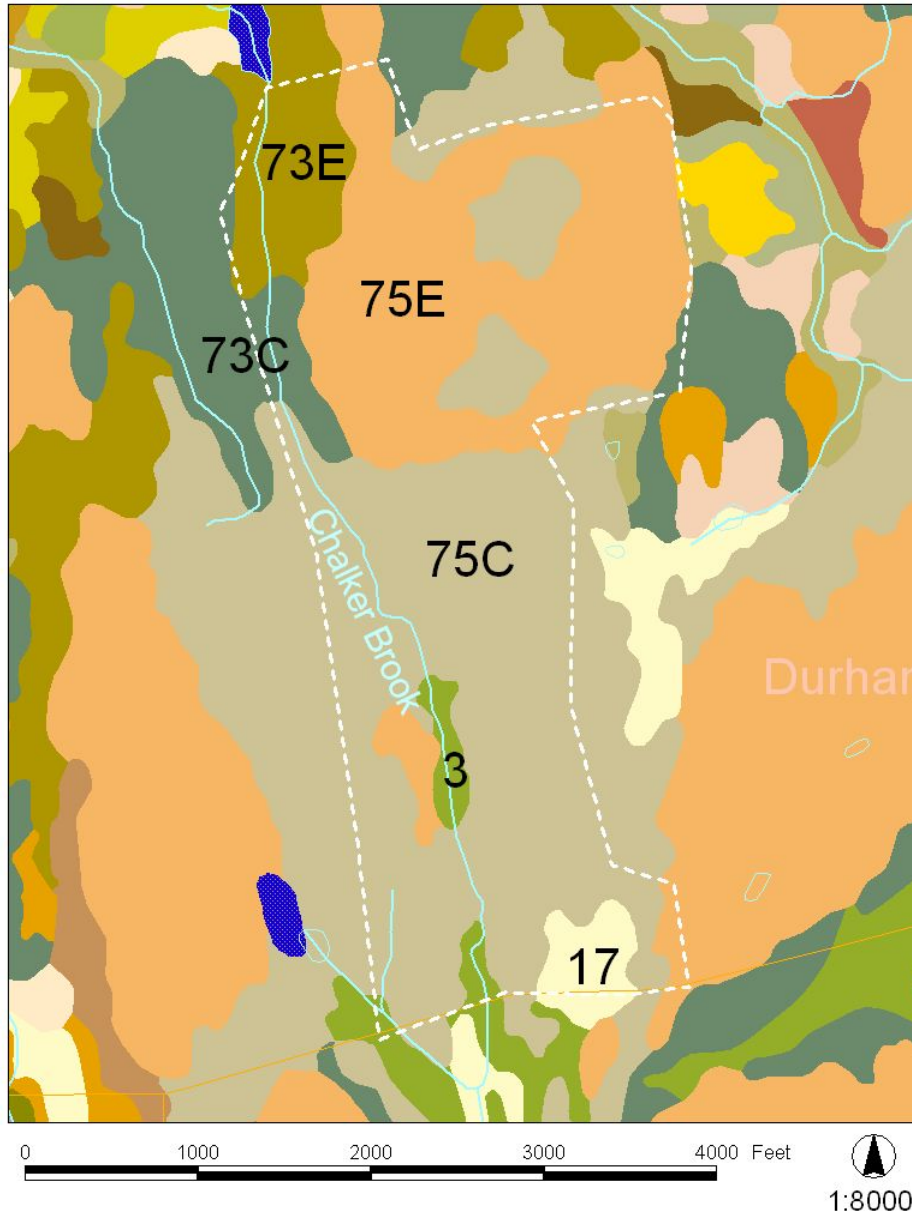
Five inland wetland soils distributed across two map units and three upland soils distributed across four map units are shown in the vicinity of the property. Two of the four upland map units include bedrock outcrops as a significant component. Descriptions of the eight soils shown on the Mount Pisgah property are provided in Table 1.



Mapping of the soil type boundaries is shown in Figure 3. These data are from the USDA/NRCS soils GIS coverage and are at a 1:12,000 scale, with the smallest area (polygon) delineated of approximately 3 acres. Caution should be taken when using soil survey mapping for site-level planning since at this scale soils in a single mapped unit can differ in slope, depth, drainage, and stoniness.

Soils on the Mount Pisgah property are mainly limited by slope, stoniness, shallow depth to bedrock, and a seasonal high water table. Select features and limitations of the predominant soil types are provided in Table 2 and Table 3, respectively.

**Figure 3.** Soil map units boundaries shown on the USDA/NRCS soils mapping (1:12,000-scale GIS data).



LEGEND		
Symbol	Name	Description
3	Ridgebury, Leicester and Whitman, extremely stony	This map unit is 40% Ridgebury soils, 35% Leicester soils, 15% Whitman soils and 10% minor components
17	Timakwa and Natchaug	This map unit is 45% Timakwa soils, 40% Natchaug soils and 15% minor components
73C	Chartlon-Chatfield Complex, 3-15% slopes, very rocky	These map units are 45% Chartlon soils, 30% Chatfield soils and 25% minor components
73E	Chartlon-Chatfield Complex, 15-45% slopes, very rocky	
75C	Hollis-Chatfield-Rock Outcrop Complex, 3-15% slopes	These map units are 35% Hollis soils, 30% Chatfield soils, 15% Rock Outcrop and 20% minor components
75E	Hollis-Chatfield-Rock Outcrop Complex, 15-45% slopes	



**Table 1.** Description of the predominant soil types at Mount Pisgah.

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#### LEICESTER SERIES

The **Leicester** series consists of very deep, poorly drained loamy soils formed in friable acid glacial till derived mostly from schist, gneiss, and granite. They are nearly level or gently sloping soils found in drainageways and in low-lying areas along hill slopes. Permeability is moderate or moderately rapid in the upper soil profile and moderate to rapid in the substratum. These soils have a water table at or near the surface much of the year and generally slow runoff. Many areas of Leicester remain wooded with common trees include red maple, red oak, elm, aspen, gray birch, white pine, balsam fir, red spruce, and ironwood, although some areas have been improved for haying and pasture.

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#### RIDGEBURY SERIES

The **Ridgebury** series consists of very deep, poorly drained (and sometimes the wetter part of somewhat poorly drained) soils formed in loamy till derived mainly from granite, gneiss and schist. These nearly level to gently sloping soils are found in slightly concave areas and shallow drainageways of till covered uplands. Permeability is moderate or moderately rapid in the upper soil profile and slow or very slow in the dense till below. A perched, fluctuating water table above the dense till saturates the upper soil layers at or near the surface for 7 to 9 months of the year. Most areas of Ridgebury are forested, with common trees including gray birch, yellow birch, red maple, hemlock, elm, spruce and balsam fir.

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#### WHITMAN SERIES

The **Whitman** series consists of very deep, very poorly drained soils formed in glacial till derived mainly from granite, gneiss, and schist. . These soils are nearly level or gently sloping soils in depressions and drainageways of glacial uplands. They are shallow to a compact dense till, and permeability is moderate or moderately rapid above the dense till and slow or very slow within it. Runoff potential is negligible with ponding often occurring. Perched water tables or excess seepage water can be found at or near the surface for about 9 months of the year. Nearly all areas are forested (common trees include alder, gray birch, red maple, hemlock, elm, spruce, balsam fir), although there is some clearing and draining for pasture. Sedges, rushes, cattails, and other water-tolerant species are the principal vegetation found in Whitman soils.

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#### TIMAKWA SERIES

The **Timakwa** series consists of very deep, very poorly drained soils formed in woody and herbaceous organic materials over sandy deposits in depressions on lake plains, outwash plains, till plains, moraines, and flood plains. These soils formed primarily in woody organic materials with some herbaceous material. They have moderate to very rapid permeability in the organic material and rapid to very rapid permeability in the sandy material, and surface runoff is negligible or very low. The saturated hydraulic conductivity is moderately low to high in the organic layers and high or very high in the sandy material. Depth to the seasonal high water table ranges from 1 foot above the surface to 1 foot below the surface from October to June. Some areas are subject to rare, very brief flooding from November to May. Most areas are used for wildlife, are in woodland or clear-cut woodland, or are used for pasture. Common vegetation is red maple, skunk cabbage, and sphagnum moss.

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#### NATCHAUG SERIES

The **Natchaug** series consists of very deep, very poorly drained soils formed in woody and herbaceous organic materials overlying loamy deposits in depressions on lake plains, outwash plains, till plains, moraines, and flood plains. These soils have moderate to very rapid permeability in the organic material and moderately slow to moderately rapid permeability in the loamy material, and surface runoff is negligible or very low. Saturated hydraulic conductivity is moderately low to very high in the organic layers and moderately low to high in the loamy material. Depth to the seasonal high water table ranges from 1 foot above the surface to 1 foot below the surface from October to June. Some areas are subject to rare, very brief flooding during March and April. Most areas are used for wildlife habitat, or are in woodland or clear-cut woodland, although some areas are used for pasture. Common vegetation is red maple, skunk cabbage and sphagnum moss.

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## CHARLTON SERIES

The **Charlton** series consists of very deep, well drained loamy soils formed in acid till derived mainly from schist, gneiss, or granite. Permeability is moderate or moderately rapid throughout, and surface runoff is medium to rapid. These soils warm up and dry out early in the spring, and unlimed areas are very strongly to medium acid. This complex poses a severe erosion hazard and is poorly suited to crop cultivation, suited to trees (except in Hollis where the shallow depth to bedrock causes windthrow), and has a fair potential for community development. Shallow soil depths, bedrock outcrops, and stoniness are the major limitations in this complex.

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## CHATFIELD SERIES

The **Chatfield** series consists consists of moderately deep, well drained, and somewhat excessively drained soils formed in till. The soils formed in a moderately thick mantle of till overlying granite, gneiss, or schist bedrock They are nearly level to very steep soils (slope ranges from 0 to 70 percent) on glaciated plains, hills, and ridges. Crystalline bedrock is at depths of 20 to 40 inches. Permeability is moderate or moderately rapid. Most areas of Chatfield soils are in woodland. Major tree species include white and red oaks, sugar maple, beech, hemlock, white pine, eastern red cedar, and Atlantic white cedar. Some small cleared areas are used for pasture, are idle, or are sites for residential and recreational development.

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## HOLLIS SERIES

The **Hollis** series consists of shallow (with depths to hard bedrock from 10 to 20 inches) well drained and somewhat excessively drained soils formed in a thin mantle of till derived mainly from gneiss, schist, and granite. These upland soils can be nearly level to very steep (slopes can range from 0 to 60%) on bedrock-controlled hills and ridges, modified by glacial action. Permeability is moderate or moderately rapid, surface runoff is negligible to very high, and available water capacity is low. Unless limed, the organic horizon is extremely acid to moderately acid and the mineral horizon is very strongly acid to moderately acid. Tree windthrow is a concern in Hollis soils because rooting depths are shallow due to the underlying bedrock.

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## ROCK OUTCROP

**Rock Outcrop** occurs on bedrock controlled landforms. Slope range from 3 to 15 percent and the runoff class is very high

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*Official Soil Series Descriptions are available from the NRCS Soil Survey Division online at:  
<http://ortho.ftw.nrcs.usda.gov/osd/>.*

**Table 2.** Select features of the predominant soils at Mount Pisgah

Map Symbol	Map Unit Name	Component	Slope	Local Landform	Drainage	Hydro-logic Group	Restrictive Layer	Seasonal Ponding (duration/frequency)	Seasonal Flooding (duration/frequency)
3	Ridgebury, Leicester and Whitman soils, ext. stony	Ridgebury	0-5	Depression, drainageway	Poorly	D	Dense Material	None	None
		Leicester	0-5		Poorly			None	None
		Whitman	0-2		Very Poorly			Long/Occasional	None
17	Timakwa and Natchaug soils	Timakwa	0-2	Depression; flood, lake, outwash and till plains; moraine	Very Poorly	D		Long/Frequent	Very Brief/Rare
		Natchaug						Long/Frequent	Very Brief/Rare
73C	Charlton-Chatfield Complex, 3-15% slope, very rocky	Charlton	3-15	Till plain	Well	B	Bedrock (20-40")	None	None
		Chatfield		Ridge					
73E	Charlton-Chatfield Complex, 15-45% slope, very rocky	Charlton	15-45	Till plain	Well	B	Bedrock (20-40")	None	None
		Chatfield		Hill, ridge					
75C	Hollis-Chatfield-Rock Outcrop Complex, 3-15% slope	Chatfield	3-15	Ridge	Well	B	Bedrock (20-40")	None	None
		Hollis		Ridge	Somewhat Excessively	D			
		Rock Outcrop				D			
75E	Hollis-Chatfield-Rock Outcrop Complex, 15-45% slope	Chatfield	15-45	Hill, ridge	Well	B	Bedrock (20-40")	None	None
		Hollis		Hill, ridge	Somewhat Excessively	D			
		Rock Outcrop				D			

Table 3. Select limitations of the predominant soils at Mount Pisgah, Durham

Map Symbol	Component	Limitations						
		Paths & Trails	Camp & Picnic Areas	Off-Road Motorcycle Trails	Haul Road Construction	Log Landings	Hazard of Soil Rutting	Suitability for Natural Surface Roads
3	Ridgebury	Very <sup>1,2</sup>	Very <sup>1,2</sup>	Very <sup>1,2</sup>	Somewhat <sup>2</sup>	Very <sup>6,2</sup>	Somewhat <sup>7</sup>	Very <sup>1,2</sup>
3	Leicester	Very <sup>2,1</sup>	Very <sup>1,2</sup>	Very <sup>2,1</sup>	Somewhat <sup>2</sup>	Very <sup>6,2</sup>	Somewhat <sup>7</sup>	Very <sup>1,2</sup>
3	Whitman	Very <sup>3,2,1</sup>	Very <sup>1,2,3</sup>	Very <sup>3,2,1</sup>	Somewhat <sup>2</sup>	Very <sup>3,6,2</sup>	Somewhat <sup>7</sup>	Very <sup>1,2</sup>
17	Timakwa	Very <sup>5,3,1</sup>	Very <sup>1,8,5</sup>	Very <sup>5,3,1</sup>	Very <sup>7,6</sup>	Very <sup>3,7,6</sup>	Severe <sup>6,7</sup>	Very <sup>3,7,6</sup>
17	Natchaug	Very <sup>5,3,1</sup>	Very <sup>1,8,5,3</sup>	Very <sup>5,1,3</sup>	Very <sup>6</sup>	Very <sup>3,6</sup>	Severe <sup>6,7</sup>	Very <sup>3,6</sup>
73C & 73E	Charlton	Somewhat to Very <sup>2,4</sup>	Somewhat to Very <sup>2,4</sup>	Somewhat <sup>2</sup>	Slight to Somewhat <sup>4</sup>	Somewhat to Very <sup>4,2</sup>	Somewhat <sup>7</sup>	Somewhat to Very <sup>4</sup>
73C, 73E, 75C & 75E	Chatfield	Somewhat to Very <sup>2,4</sup>	Somewhat to Very <sup>2,4</sup>	Somewhat <sup>2</sup>	Somewhat to Very <sup>9,4</sup>	Somewhat to Very <sup>4</sup>	Somewhat <sup>7</sup>	Somewhat to Very <sup>4</sup>
75C & 75E	Hollis	Very <sup>2,4</sup>	Very <sup>9,2,4</sup>	Very <sup>2</sup>	Very <sup>9,2,4</sup>	Somewhat to Very <sup>4,2</sup>	Somewhat <sup>7</sup>	Very <sup>4,2</sup>

Limiting Feature	
<sup>1</sup> Depth to saturated zone	<sup>6</sup> Wetness
<sup>2</sup> Too Stony	<sup>7</sup> Strength
<sup>3</sup> Ponding	<sup>8</sup> Flooding
<sup>4</sup> Slope	<sup>9</sup> Depth to Bedrock
<sup>5</sup> Organic Matter Content	

**AREAS OF CONCERN**

**Steep and Stony Uplands**

Much of the Mount Pisgah property is moderately to very steep, with upland soils limited by shallow depths to bedrock, slope and stoniness. In addition, upland soils on the property have a moderate hazard of soil rutting. Recreational or forestry activities of any intensity should be located in areas with as moderate slopes as possible. The booklet “*A Practical Guide for Protecting Water Quality While Harvesting Forest Products*” prepared by the CT RC&D Forestry Committee (1990) provides a number of practical recommendations for minimizing potential impacts from forestry activities. In general, proper erosion and surface water control measures, sedimentation traps and barriers, and time of the year restrictions should be considered for forestry management or trail building/maintenance projects.

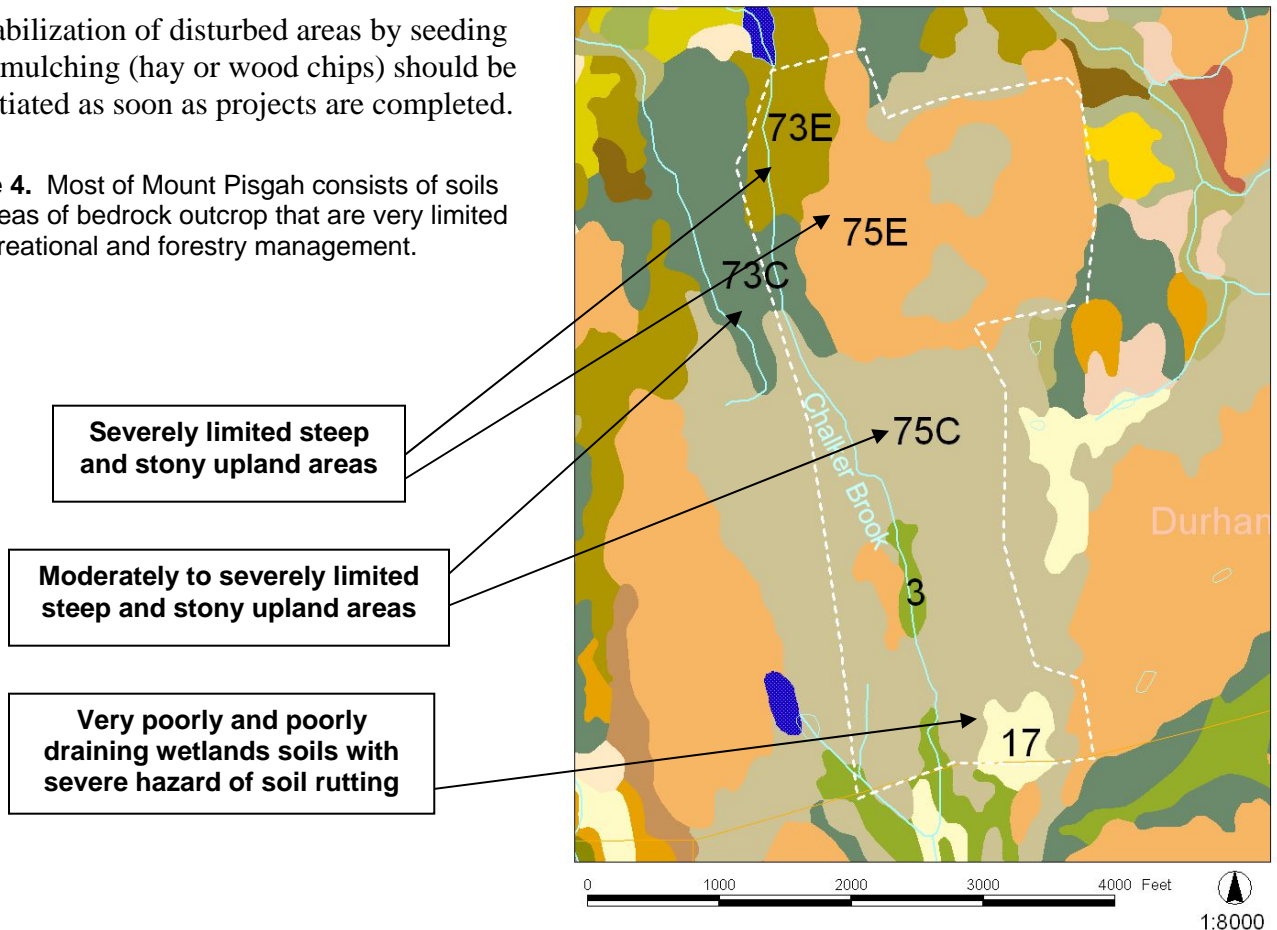


**Photo 1.** Climbing to the summit of Mount Pisgah over exposed bedrock.

*Recommendations*

- Proper erosion and sedimentation control measures, e.g., hay bale barriers, wood chip or compost berms, temporary fill berms or diversions, and water bars should be used for any projects causing earth disturbances.
- Stabilization of disturbed areas by seeding or mulching (hay or wood chips) should be initiated as soon as projects are completed.

**Figure 4.** Most of Mount Pisgah consists of soils and areas of bedrock outcrop that are very limited for recreational and forestry management.



## Wet, Eroding and Rutted Areas

Evidence was observed during the field walk of significant damage from off-road vehicles. Deep ruts, ponded water, and ongoing erosion were observed especially in the southern portion of the property. Some areas of woods road appear to be chronically used by motorized vehicles and are becoming further eroding by concentrated surface runoff flows carried in the roadway.

Enforcing restrictions against motorized vehicles, improving drainage on existing woods roads and trails, and closing off/restoring areas where there is the greatest damage should be considered.

### *Recommendations*

- Seasonal restrictions on trail use in areas that are wet and muddy (seasonally saturated) should be considered, especially in the southern portion of the property.
- Deeply gullied areas should be brought back to grade, and the worst areas of chronic ponding filled with appropriate material.
- Woods road not needed for maintenance vehicle access should be narrowed to foot path width (e.g., 4 ft).
- Trails should be cross sloped at 3-4% where possible, and drainage in chronically wet area provided using drain dips or curtain drains.
- Construction of raised walkways (punchon), bridges, or turnpikes may be necessary in chronically wet trail areas that cannot be stabilized otherwise.
- Construction of haul roads or log landings required for forestry activities should be limited in the southern portion of the property in soils that have limited drainage.
- A restriction on forest management activities to when the forest floor is completely frozen or completely dry may be considered.



**Photos 2 & 3.** Deeply rutted areas with poor drainage where water is chronically ponding in the southern portion of the property.

## Vernal Pool

A shallow pond was observed in the south east portion of the property in an area shown as very poorly drained soils on the NRCS/USDA soils maps. Wood frogs were heard calling and were observed congregating in and near the pond during the field walk held on March 14<sup>th</sup>. As there was not yet any evidence of breeding activity (i.e., egg masses), the quality of the pond as vernal pool habitat could not be determined. A number of shallow depressional areas were observed in close proximity to the pond. Unfortunately, due to the dry nature of the current spring season, none of these areas were holding water. Accumulations of water stained leaves did however suggest that some of these areas may seasonally hold water, and therefore may support vernal pool breeding amphibians especially in wet years. Further field investigation in this portion of the property in a wetter spring, or possibly even in the late fall, may reveal the presence of other vernal pool habitats. Appropriate forestry management, trail creation and maintenance, soil erosion control, and sediment trapping techniques should be used in and near observed vernal pools to reduce potential impacts.

### *Recommendations*

- Recommendations provided in “*Forestry Habitat Management Guidelines for Vernal Pool Wildlife in Maine*” written by A.J.K. Calhoun and P. deMaynadier (2003) should be considered for land in an near any observed vernal pools. Some key considerations include;
  - a) Within 100 ft from a vernal pool avoid disturbing fallen logs and woody debris, discourage heavy machinery, and do not create ruts, roads, trails, or landing areas.
  - b) In the first 500 feet from a vernal pool use shelterwood or other harvesting techniques that retain some canopy component, discourage construction of road or landing area, and avoid creating skidder ruts, ditches, and borrow pits that can become artificial vernal pools.
  - c) Conduct forest management activities when forest floor is completely frozen or completely dry to minimize the amount of soil erosion, compaction, rutting, and permanent scarring.
  - d) Plan harvests in a manner minimizing soil compaction and scarification, e.g., limit number of passes; avoid sharp turns, and adequately space roads/trails.
  - e) Minimize the use of chemicals near vernal pools, especially those with surfactants.
  - f) Conduct forestry management activities outside of the active amphibian migration and breeding season, generally in spring and late summer/early fall.
  - g) Avoid conversion of one forest cover type to another in and near vernal pools. Organic inputs (e.g. leaf fall) from surrounding trees serves as the base of the ecological food web, and changes in the type and quality of this resource can shift vernal pool community structure.



**Photo 4.** Pool where wood frogs were heard and observed to be congregating during the ERT field walk.

## Chalker Brook Crossings

Two crossings of Chalker Brook were observed during the field walk. The northernmost, on the access trail between the Cream Pot Road parking area and the Mattabesset Trail, is an unimproved crossing. Chalker Brook in this vicinity was fairly narrow with enough rocks to facilitate a fairly dry crossing. Future enhancements of this crossing point may need to be considered if the access trail receives moderate to intensive use.

The second crossing is in the southern edge of the property in the vicinity of where the woods road/trail turns to the north. In this location a watercourse that is assumed to be Chalker Brook was observed to pass under the trail in an approximately 18 inch diameter metal pipe. This pipe culvert connects the watercourse and its associated wetlands which extend to either side of the trail. The woods road in this area is deeply rutted, and a substantial amount of ponding, possibly due to seepage, was observed in the center of the trail. A degraded area on the road edge was also observed which is acting as a leak off point, where concentrated surface flows are entering the watercourse. The functionality of this pipe culvert to adequately carry flow velocities and volumes should be evaluated as well as if it is partially crushed or blocked. The pipe was fully submerged at the time of the field walk, so the upstream and downstream conditions were not readily observable. In addition, if there are beaver active in the area, retrofitting the pipe culvert with a "beaver deceiver" device may be prudent.



**Photo 5.** Chalker Brook passes through a culvert that is in need of improvement and repair. Seepage across the trail was observed suggesting either the culvert located in the vicinity of the red arrow is either undersized or is partially crushed or blocked.



# **WETLANDS AND WATER RESOURCES**

The wetland review portion of this property took place on May 25, 2006. Two Team members entered the property from the southeast and traveled west to the wetlands. We followed paths along the southern boundary, past the burn area to the road, followed the road west past the wetlands and watercourse and then bent north along the west boundary. We continued north towards the houses that are close to the western property line and then proceeded east cross-country, over a surprisingly rushing Chalker Brook. From there we continued to the top of Mount Pisgah and headed east to the road for our exit.

## **Description**

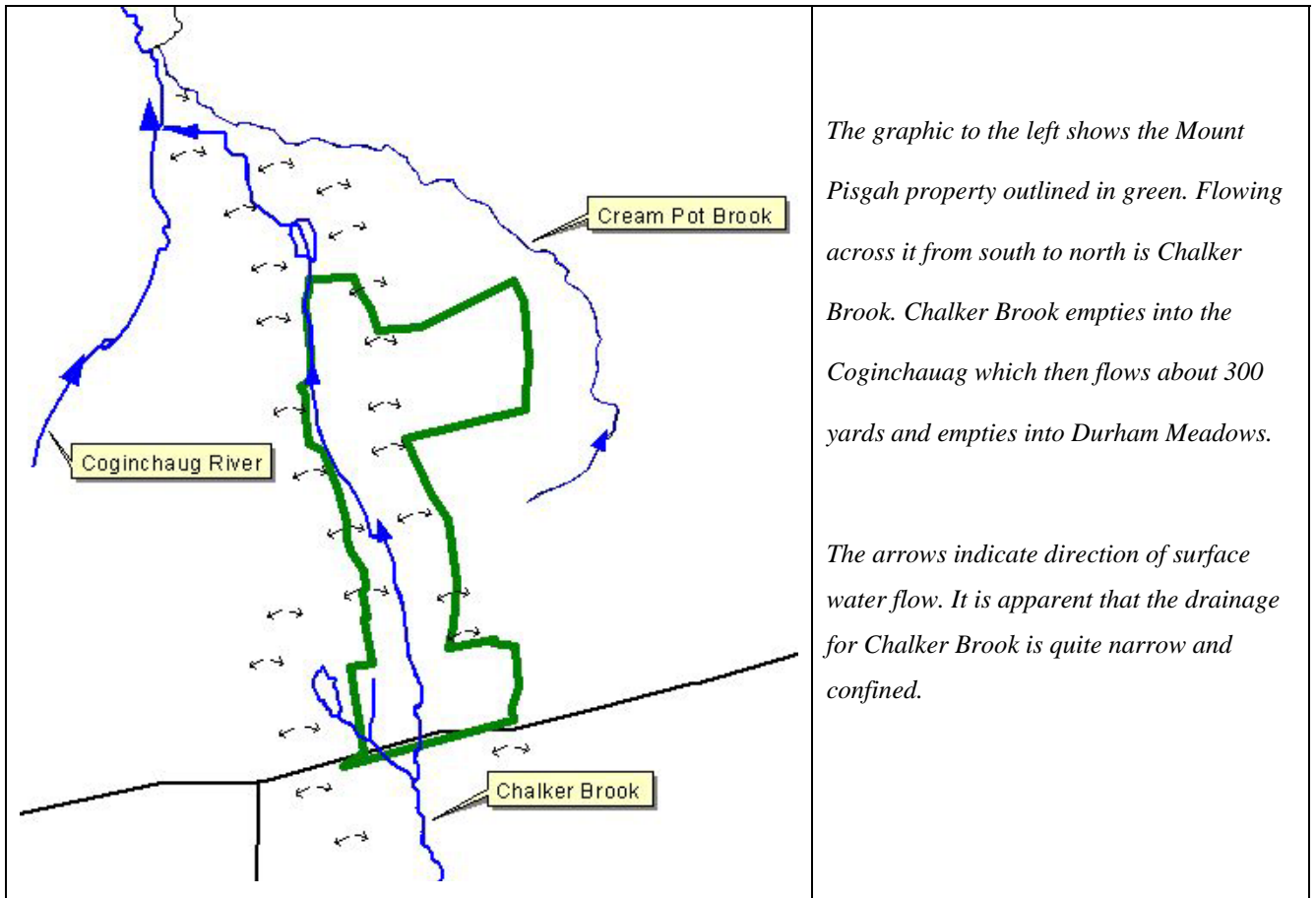
The parcel is approximately 181 acres in size. It is located along Durham's southern border with the towns of Guilford and Madison. The property extends slightly more than one mile north to south. It is variable in width from 950 feet at its narrowest to its widest at 2,500 feet.

Of the ~181 acres, the estimated breakdown of drainage is as follows:

- 121 acres, 66 percent, drains into Chalker Brook;
- 57 acres, 32 percent, drains eastward into Cream Pot Brook; and
- 3 acres, 2 percent drains into the Coginchaug River Watershed.

Chalker Brook flows south to north over the south central and western side the parcel. In total Chalker Brook is approximately two miles long. Fifty four per cent of its total length (about 5,750 feet) passes over the property. Chalker Brook drains a total area of about 310 acres. About 121 acres of this property drains into the Chalker Brook watershed, which equals nearly 40% of the Chalker Brook watershed. Fifty eight acres of the property, including Mount Pisgah, drain easterly into the Cream Pot Brook watershed.

There are no structures on the property and, except for a few openings in the forest roads and sparse-tree areas of the floodplain, the parcel is 100% forested.

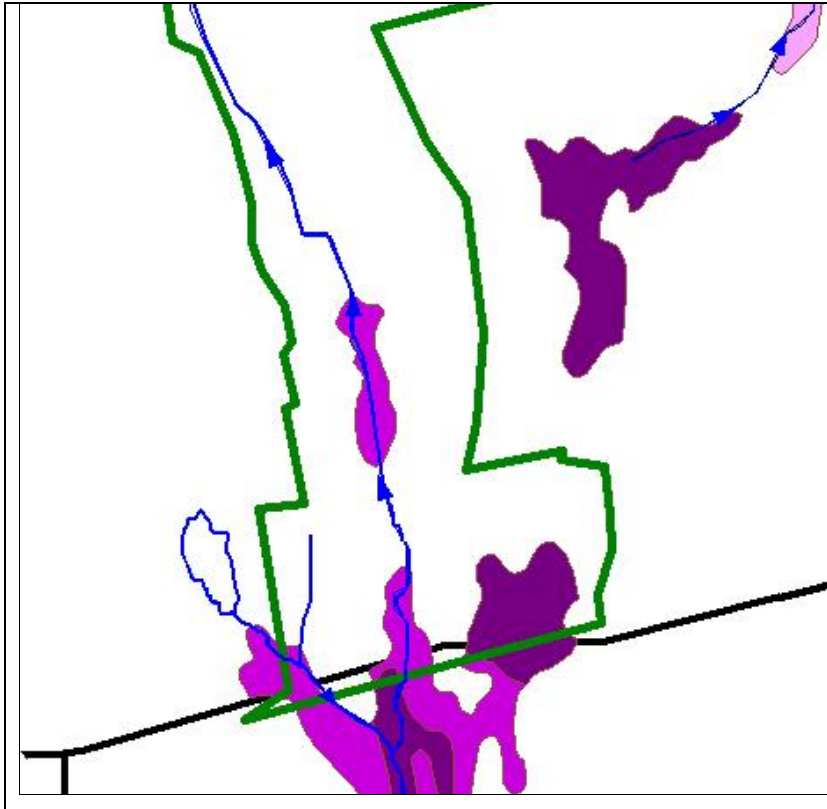


*The graphic to the left shows the Mount Pisgah property outlined in green. Flowing across it from south to north is Chalker Brook. Chalker Brook empties into the Coginchaug which then flows about 300 yards and empties into Durham Meadows.*

*The arrows indicate direction of surface water flow. It is apparent that the drainage for Chalker Brook is quite narrow and confined.*

The property ranges in elevation from the high atop Mount Pisgah of 644 feet above sea level to a low of 239 feet along the north central border where Chalker Brook leaves the property. These two extremes are only 1,200 feet apart as the crow flies resulting in slopes exceeding 30 % in some places. Frequently in these areas, little soil layer has built up and much bedrock is exposed.

**Dominant wetlands** occur along the central and south central portion of the property in combination with Chalker Brook. The Natural Resources Conservation Service soil mapping shows a little more than 12.1 acres of wetlands on this property. These are predominantly headwaters wetlands that have formed upon glacial till-based soils. They are primarily palustrine/forested in makeup. cursory field observation indicated that more than this wetland total exists on the property within the Chalker Brook floodplain.



*This graphic shows the wetlands mapping done by the NRCS for the southern part of the parcel. The wetlands are found along Chalker Brook with the darkest areas being very poorly drained and the lighter color being poorly drained.*

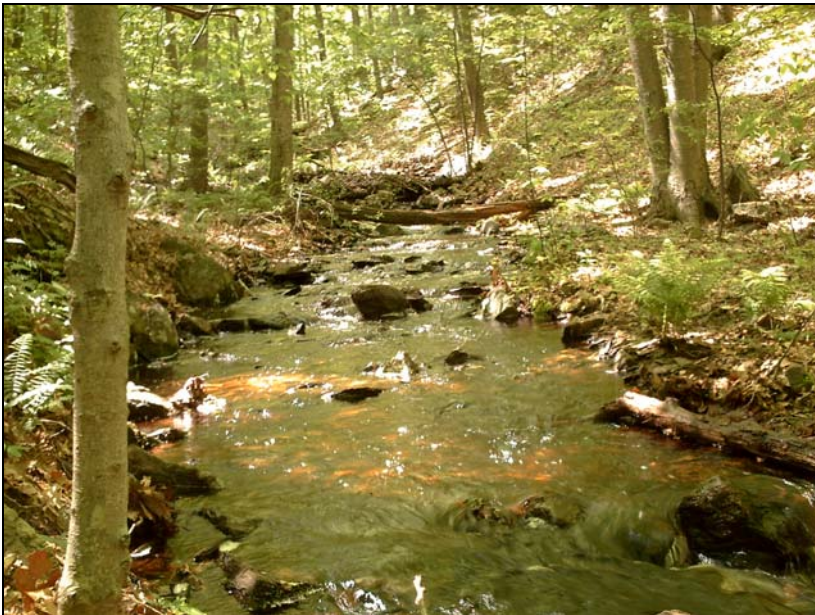
The wetlands are three tiered with numerous upland interspersions. The herb layer is diverse, the shrub layer is well established, and the canopy varies in percentage of cover from woodland to forest category.



Typical forested wetland scene showing the vegetated forest floor, a healthy shrub layer and mature trees which provide 80% and greater ground shading.



*Forest or woods roads provide access around the property. In the left hand photograph above is the forest road flooded along the southern boundary of the parcel. This is where the road crosses the stream and in high water apparently covers the road. To the right is a typical forest road scene heading north along the west side of the parcel. As discussed in another section of the report, the forest shows a healthy diversity of species which provides wildlife habitat and cover for a songbird population distinguished by the abundant variety of their calls.*



*This photograph depicts Chalker Brook as it flows along the western border of the property just below Mount Pisgah.*

## Discussion

Durham is doubly fortunate to have such an abundance of unspoiled open space *and* the foresight to preserve those areas that are available.

This particular parcel at the time of the visit was quite serene, very quiet, almost totally unspoiled. It appeared to be an area of very little use based on the lack of litter and tracks on road.

Later investigation showed however that the “clean” aspect of it was no accident. The grounds are now clear due to a recent, major clean up event and the addition of gates to prohibit vehicular traffic from entering the property. The cleanup, which yielded hundreds of pounds of refuse, clearly defines the benefit of making the property open only to foot and animal traffic.



*This photograph shows a portion of the hundreds of pounds of trash recovered from the site, and three of the dedicated volunteers that made it happen.*

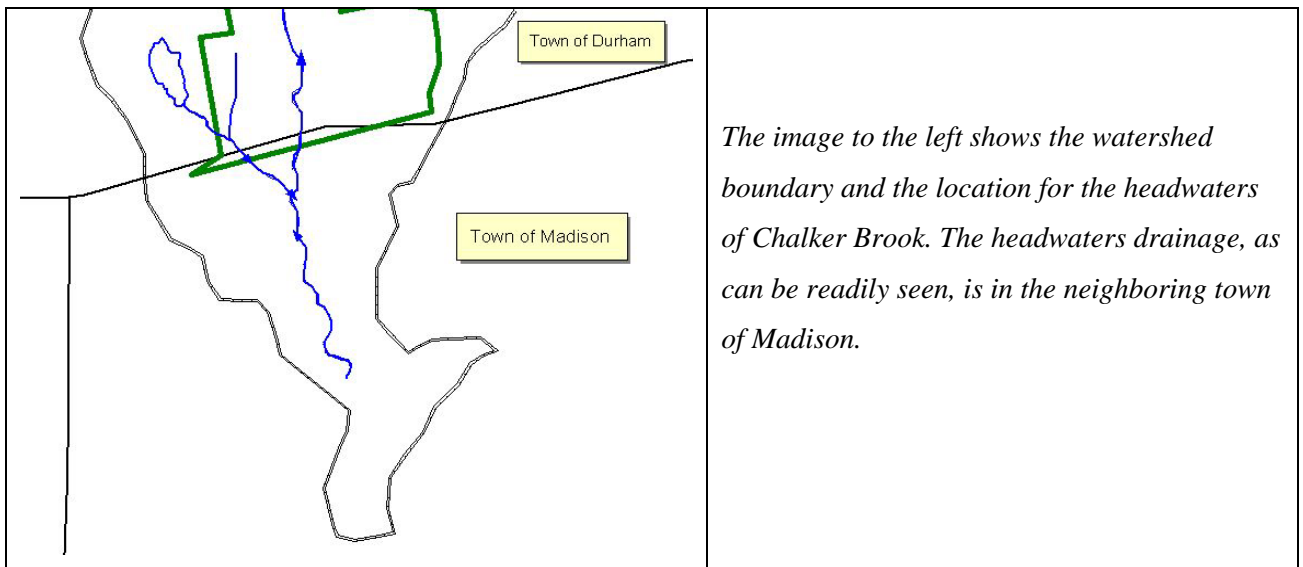
## Suggestions

**Resource inventory:** The few hours this reviewer spent on the parcel yielded only a small picture of the makeup of the landscape. If the opportunity presents itself through volunteers or student work, it would be an excellent asset to have a natural resources inventory completed. Certainly, further pursuit of wetland mapping beyond the wetlands indicated by the NRCS, including potential vernal pools, would be a benefit for any future trail and/or educational planning.

**NDDB:** A request for information from the Natural Diversity Data Base (NDDB) showed one hit for the parcel. Part of the resource inventory mentioned above should include a qualified investigation of other species of note in the area.

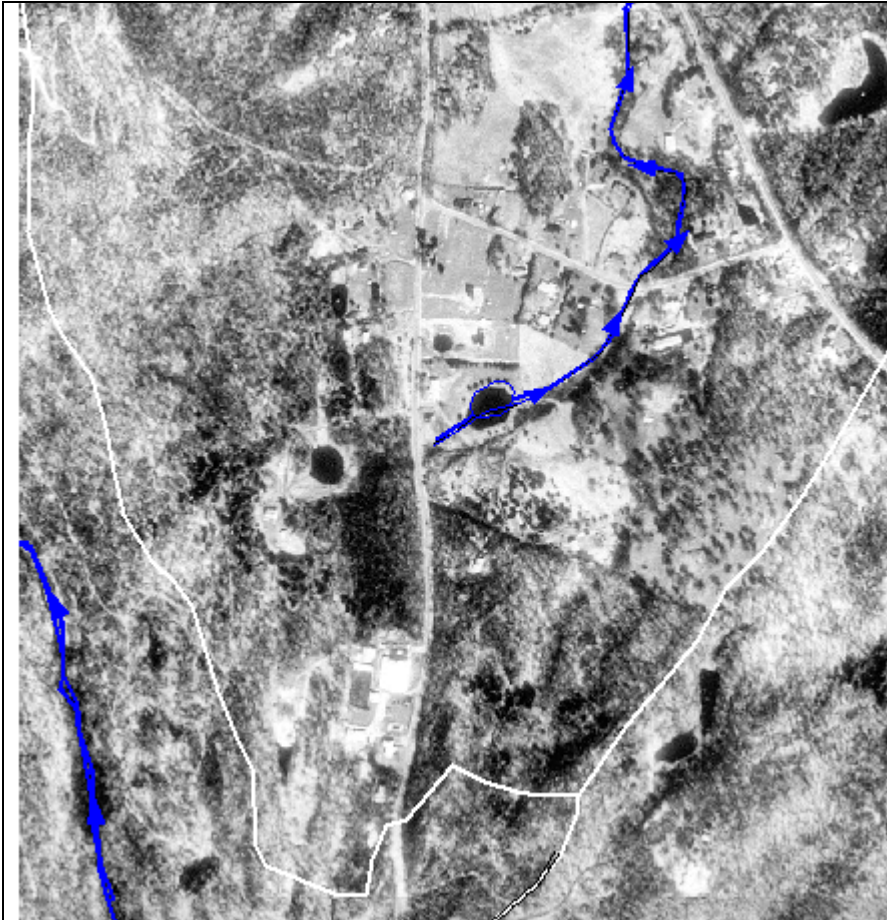
**Continue to Plan:** The future quality of the town's water courses is, in many ways, dependant upon the land use decisions made today. Durham has been proactive in the pursuit of open space parcels, many of which are in water based or sensitive, species-diverse areas. Continuing along the course of riparian protection, land use planning and monitoring impervious surfaces will help preserve the nature of the town's natural resource assets. Planning includes the limiting of access from those that would deface and abuse the location.

Planning may also include working with neighboring towns with which Durham has water resources in common. For instance, 89 headwater acres of Chalker Brook lie in the town of Madison. Communicating with Madison regarding existing zoning and the need to protect the resource today may yield the desired protection of tomorrow.



**Education:** as with other parcels in town, this one has great education potential. The wetlands in and about this location have been little altered over time, or have rebounded to a healthy state. Many have reached a dynamic state of both vegetation and animal species and offer a diversity that would be inviting to any outdoor classroom. These wetlands and unfettered riparian areas can be easily

contrasted with the other wetlands in town that have been impacted to realize the value of protecting the water resources, especially in a town so dependent upon wells for its drinking water.



*This aerial photograph from the early 1990s shows the headwaters area of Cream Pot Brook. The landuse includes many roads, structures, cleared lots, lawns, and ponds in developed areas (good “sinks” for pesticides and fertilizers). This is quite an educational contrast to the more typical wooded uplands found in the sensitive headwaters areas.*

# ***FISHERIES RESOURCES***

## **Chalker Brook**

Chalker Brook is located on the Mt. Pisgah property flowing northward where it confluences with the Coginchaug River within Durham Meadows. Chalker Brook is a 1st order headwater stream that is characterized by a very steep gradient. One of the more important functions of a headwater stream is to provide clean and unpolluted waters to downstream areas of a watershed, which contain an increased diversity of aquatic organisms. Surface water quality of Chalker Brook is classified by the Connecticut Department of Environmental Protection as Class A. Designated uses of Class A waters are as follows: potential drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply and other purposes.

According to the Rosgen stream classification system (Rosgen 1996), Chalker Brook on this property would be best defined as an “A1 or A2” watercourse. This stream type is very steep (4-10% slopes) and has an entrenched channel with steep side slopes. It is confined in bedrock and contains large boulders. Albeit variable, most mesohabitat is in the form of alternating bedrock/boulder step-pools intermixed with pocket waters. Pool spacing is controlled by bedrock and boulders. Much of the smaller streambed substrates are comprised of flat and fractured pieces of local bedrock material (gray, medium to coarse grained schists). This stream type is relatively straight, high energy and contributes little sediment supply to downstream areas.

Although Chalker Brook has not been sampled by the DEP Inland Fisheries Division, it is expected to support a native brook trout population. Brook trout, which are species native to Connecticut, typically spawn during the month of October. Eggs incubate within gravel substrates over the fall and winter periods with eggs hatching in late February or early March. Fry remain in the gravel until their yolk sacs are absorbed at which time the fry emerge from underneath the gravel and move into preferred stream microhabitats. Fry emergence occurs when fish reach about 1.5 inches in length.



**Native Brook Trout** (From <http://dep.state.ct.us>)

There are two small ponds located on the lower stretch of Chalker Brook, identified by the CTDEP as Arrigonis Pond's Number 2 and 3. Dams on these ponds block upstream passage of the fish community that resides in the lower stretch of Chalker Brook.



## **Recommendations**

### **Riparian Corridor Protection**

Lands adjacent to streams, often referred to as the riparian corridor, serve several vital functions in the maintenance of biologically healthy and diverse stream and riparian ecosystems. Vegetated riparian corridors: (1) naturally filter sediments, nutrients, fertilizers, and other non-point source pollutants from overland runoff, (2) maintain stream water temperatures suitable for spawning, egg and fry incubation, and rearing of resident finfish, (3) stabilize streambanks and stream channels thereby reducing instream erosion and aquatic habitat degradation, (4) supply large woody debris to streams providing critical instream habitat features for aquatic organisms, (5) provide a substantial food source for aquatic insects, which represent a significant proportion of food for resident finfish, and (6) serve as a reservoir, storing surplus runoff for gradual release into streams during summer and early fall base flow periods.

It is the policy of the Connecticut Department of Environmental Protection Inland Fisheries Division that riparian corridors be protected with a 100-foot wide riparian buffer zone.

A copy of this policy is available upon request. Given the presence of steep side slopes adjacent to Chalker Brook, it is highly recommended that no timber harvests occur on the Chalker Brook hillside draining into the brook and that a 100-foot wide riparian buffer zone should be maintained along the Chalker Brook riparian corridor.

### **Literature Cited**

Rosgen, D.L. 1996. Applied River Morphology. Wildland Hydrology, Pagosa Springs, CO.

# **FORESTRY AND VEGETATION REVIEW**

## **Vegetation**

The Mount Pisgah Open Space totals approximately 180 acres and is part of the Durham Conservation Lands. This tract may be divided into several broad vegetation categories. These include mixed hardwoods, hardwood swamp/streambelt, oak ridge and softwoods/hardwoods. Below are brief descriptions of each of the vegetation categories found on this property. The location and acreage of these areas are approximate and were obtained from 1986, 1990 and 1995 aerial photographs and 2004 orthophotographs. They are depicted on the Vegetation Type Map. The field inventories of vegetation types were conducted in March, July and September of 2006.

The vegetation that has developed on this tract is diverse and strongly reflects the soils that are present and the past use of the land. Historically, this section of Durham was primarily used as pasture for sheep and goats. Less productive areas were used as woodlots for charcoal and fuelwood or left idle. Stonewalls, barbed wire fences and blocking stones that still remain from split rail fences that have long since rotted away, delineate local property boundaries. Mountain laurel is scattered throughout most of the property and forms a dense cover in the understory over approximately 58 acres.

This property has a long history of harvesting activities. The last major sawtimber harvest probably occurred in the late 1970s or early 1980s when almost all of the merchantable oaks were removed from all accessible portions of the property. In addition, at or about that same time a considerable amount of fuelwood was removed from the roadsides that were accessible to pickup trucks. Today, the accessible portions of the property are crisscrossed with old logging haul roads and skid trails. Many of these roads and trails are in poor condition and will continue to deteriorate unless they are maintained and where possible closed to motorized vehicles.

Several non-native invasive plant species have become established along the major trails and in the openings where the natural vegetation was disturbed. These include Asiatic bittersweet, multiflora rose, autumn olive, garlic mustard and several species of bush honeysuckle. These species are of special concern because they are non-native and have the potential to become major components of the ecosystem by out competing native species. Although some of these species provide wildlife with food and cover, they are aggressive competitors with native plants and should be controlled when possible. At the present time, mechanical removal of some of these plants should be effective especially where limited numbers of individuals are present. In areas where these species are well established, a combination of mechanical, chemical and perhaps biological control methods should be considered. If no effort is made at this time to control the non-native invasive species that are present, they will become more widespread and their control will become much more difficult. In this report, non-native invasive plant species will be marked with an “\*” for easier identification. The most up-to-date control and management information on the above non-native invasive species may be found at the following web site: <http://tncweeds.ucdavis.edu/esadocs.html>

Specific forest management recommendations aimed at improving the overall health, stability and diversity of this property are suggested for the mixed hardwoods vegetation type where implementation is not restricted by access or site limitations. Management practices include crop

tree selection and release (focused on removing the unhealthy and poor quality trees that are interfering with the growth of healthy trees) and invasive species control and management. Specific recommendations may be found in the individual vegetation type descriptions.

It is important to note that the property boundaries should be located and clearly marked before any management activities are implemented.

## **Vegetation Type Descriptions**

**A. Mixed Hardwoods:** This Mixed Hardwood vegetation type totals approximately 122 acres and is generally restricted to the somewhat deeper and richer soiled valleys and side slopes. As stated earlier, the accessible portions of this vegetation type received a harvest that removed most of the larger oaks as sawtimber and a portion of the smaller hardwoods as firewood approximately twenty-five years ago. Today, this area is dominated by reasonably healthy pole size trees (5” to 11” in diameter at breast height (d.b.h.)), which range from 60 to about 110 years of age. The overstory in this vegetation type is dominated by black birch, red maple and American beech with red oak, black oak, white oak, chestnut oak, sassafras, yellow birch, white ash, sugar maple, tuliptree, gray birch, paper birch, shagbark hickory, pignut hickory and mockernut hickory mixed in. Red oak, red maple, white ash, yellow birch and tuliptree dominate where this Mixed Hardwood type makes a transition to the Hardwood Swamp/Streambelt type. Larger and older trees are present but they are few in numbers and scattered. They were probably left during the last harvest because they were not accessible, large enough or valuable enough to be cut and be sold as timber at that time. The understory vegetation, which is present includes hardwood tree seedlings, mountain laurel (which is very dense on approximately 58-acres), maple leaved viburnum, hophornbeam, American hornbeam, azalea, American chestnut sprouts, witch-hazel, highbush blueberry, spice bush and sweet pepperbush. Ground cover vegetation includes poison ivy, Virginia creeper, grape vines, rattlesnake plantain, Canada mayflower, Solomon’s seal, false Solomon’s seal, wood aster, club moss, bracken fern, Christmas fern, evergreen wood fern, hayscented fern, interrupted fern and many other species of grasses, sedges and wild flowers.

In some areas the trees are becoming somewhat crowded and are beginning to decline in health and vigor. A fuelwood thinning following the Crop Tree Selection method of thinning would help to reduce the crowded condition and allow potential crop trees to improve in health and vigor over time. Trees that are removed to release crop trees, may be harvested and utilized as fuelwood, felled or deadened in place and left standing for wildlife. Up to 40 trees per acre should be chosen as crop trees. These trees should be released to full sunlight by removing the competing trees from three out of four sides of their crowns. Poor quality defective trees that are not providing specific benefits to wildlife such as the production of desirable mast or suitable cavities may also be harvested or deadened in place at this time.

**B. Hardwood Swamp/Streambelt:** There are several Hardwood Swamp areas that total approximately 29 acres located within this tract. Four of these wetlands are directly associated with Chalker Brook, the remaining wetlands are considered vernal pools and have no apparent outflows. The vegetation that is present in all of these wetlands is somewhat variable but generally dominated by all size classes of red maple. Other tree species that are present include black gum, white ash and yellow birch. Tuliptree, red oak, sugar maple, American beech, shagbark hickory and bitternut

hickory are also present along Chalker Brook in the transition zone between this vegetation type and the Mixed Hardwood vegetation type. Shrub species that are present include highbush blueberry, spicebush, sweet pepperbush, mountain laurel, speckled alder, arrowwood viburnum, swamp azalea, swamp rose, winterberry, American hornbeam, witch-hazel and poison sumac. Skunk cabbage, false hellebore, tussock sedge, club moss, sphagnum moss, Canada mayflower, violets, Indian cucumber root, wild geranium, Jack-in-the-pulpit, Solomon's seal, false Solomon's seal, cardinal-flower, trillium, tall meadow rue, poison ivy, Virginia creeper, cinnamon fern, sensitive fern, evergreen wood fern, royal fern, grasses and sedges are present throughout as ground cover. Many of the larger red maple and black gum that are present have cavities that make excellent den sites for many species of wildlife including wood ducks. There are also many standing dead trees called snags that are being utilized by a variety of birds.

**C. Oak Ridge:** There are approximately 28 acres of the Oak Ridge vegetation type found in 12 separate stands present on this property. These stands are located on the knoll tops and are characterized by droughty, shallow to bedrock soils with extremely low productivity for hardwoods. In some areas, where the bedrock is completely exposed, little or no vegetation is present except for several species of lichens and mosses. As a result of the droughty soil conditions many of the trees are very short, are growing extremely slowly and have a stunted appearance. Included are seedling to pole size chestnut oak, white oak, scarlet oak, black oak, red maple, black birch, cherry, pignut hickory and occasional hemlock. Stunted pitch pine are present at the highest elevations where bedrock is exposed along with occasional eastern red cedar. Mountain laurel is dense in some areas. Witch-hazel, highbush blueberry, maple-leaved viburnum and hardwood tree seedlings are scattered throughout where there are gaps in the mountain laurel. The ground cover that is present includes huckleberry, lowbush blueberry, clubmosses, lichens, mosses, grasses and sedges. In some areas Gypsy Moth egg masses were observed in abundance, especially on chestnut oak.

**D. Softwoods/Hardwoods:** Approximately 1 acre of the Softwood/Hardwoods vegetation type is present within this parcel. Over 40% of this vegetation type is made up of pole to small sawtimber size eastern hemlock. Many of the hemlock that are present are infested with low numbers of Hemlock Woolly Adelgid. Fortunately, hardwoods tree species including red maple, black birch, American beech, shagbark hickory, pignut hickory, white oak and chestnut oak are also intermixed. These trees will expand their crowns to take up the space made available should the hemlock continue to decline. The understory vegetation that is present is made up of hardwood tree seedlings, hemlock seedlings, witch-hazel, maple-leaved viburnum and American hornbeam. Canada mayflower, club moss, Christmas fern, grasses and sedges were observed as ground cover where sunlight reaches the forest floor.

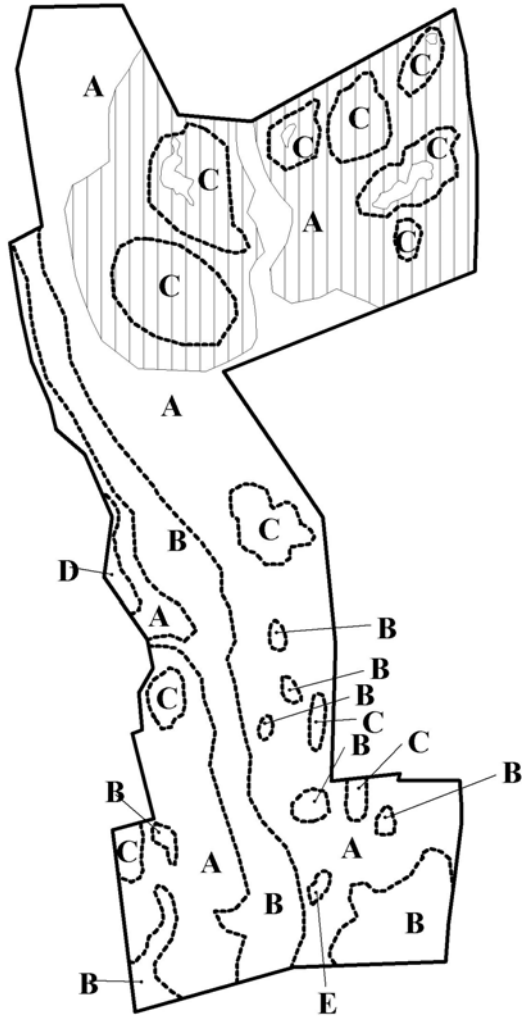
At this time, the Hemlock Woolly Adelgid has only caused limited hemlock mortality. The trees that are mildly infested appear in relatively good condition; however this could change at any time. The Hemlock Woolly Adelgid is a small aphid-like insect that feeds on the sap from young Eastern Hemlock twigs during all seasons of the year with the greatest damage occurring during the spring. The loss of new shoots and needles seriously impairs the hemlock's health and vigor. The Adelgid is dispersed by wind, birds and mammals and is at the present time almost impossible to control in a forested environment. Cultural and chemical control methods have proven to work well in ornamental landscapes.

Biological control agents such as the Asian ladybird coccinellid beetles show promise, but widespread availability and use are probably several years off. Defoliation and the resulting

mortality can occur within several years after initial infestation. Infested hemlock die at different rates and deteriorate quickly after death. Although standing dead hemlock provide excellent foraging and cavity-nesting habitat for many species of birds they also create problems. Dead hemlock trees not only pose a direct threat to people and property; they may also pose a long-term wild fire hazard and are generally not aesthetically pleasing. Monitoring hemlock condition will be vital to prescribing future management strategies, which may or may not include cutting to reduce hazardous conditions.

**E. Mixed Hardwoods/Burn Area:** This Mixed Hardwood vegetation type totals approximately 0.3 acres and is restricted to an area that was burned several years ago along one of the access roads. The fire was hot enough to kill all of the trees that were present. After the fire, seedling size red maple, tuliptree and chestnut oak have become established along with mountain laurel, sweet pepperbush, maple-leaved viburnum, witch-hazel, staghorn sumac and raspberry. Unfortunately, several non-native invasive plants have also become established after the fire. These include Asiatic bittersweet\*, multiflora rose\*, autumn olive\* and several species of bush honeysuckles\*. The ground cover vegetation that has become established includes club moss, hayscented fern and many species of grasses, sedges and wild flowers. The invasive species that are present should be eradicated as soon as possible so that they do not spread to other portions of the property.

**DURHAM OPEN SPACE  
MOUNT PISGAH  
DURHAM, CT  
VEGETATION TYPE MAP**



**LEGEND**

- PROPERTY BOUNDARY
- VEGETATION TYPE BOUNDARY
- DENSE MOUNTAIN LAUREL

250 0 250 500 750 Feet



**VEGETATION TYPES**

A. Mixed Hardwoods	122+- Acres
B. Hardwood Swamp/Streambelt	29+- Acres
C. Oak Ridge	28+- Acres
D. Softwoods/Hardwoods	1+- Acres
E. Mixed Hardwoods/Burn Area	0.3+- Acres

**DURHAM OPEN SPACE  
MOUNT PISGAH  
DURHAM, CT  
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**LEGEND**

- PROPERTY BOUNDARY
- VEGETATION TYPE BOUNDARY
- DENSE MOUNTAIN LAUREL

250 0 250 500 750 Feet



**VEGETATION TYPES**

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# BOTANICAL REVIEW

The botanical diversity of the Mt. Pisgah area is typical for an acidic Connecticut oak forest. For the majority of the site oaks and red maple dominate the canopy with Mountain Laurel as a dominant shrub. Sections of forests toward the top of the Mount Pisgah have probably had a history of fire and xerophytic (dry site) species such as scrub oak and pitch pine are present. On a lower slope area there is also an area of slight nutrient enrichment, likely to have a higher pH that supports Sugar Maple.

The summit and the cleared open area on knoll below the summit are of conservation value because the Mountain Sandwort (*Arenaria glabra*), a threatened species, occurs there. The population at the summit of the mountain does not seem to be extant but population on the lower knoll is still Connecticut Forests and Parks and the are in favor of re-routing the blue trail so it no longer impacts this population. Clearing some of the tree branches around the population when the plants dormant may help this species.



Photographer – John Beck

The forest is amazingly free of invasive species. The only exceptions are the area where the site was accessed, this cul-de-sac was lined with Garlic mustard, and it may be wise to have this controlled before it spreads onto the conservation land, and in the more open area where a “micro-burst” had occurred there are a few woody invasives present such as Multiflora rose and Autumn olive. These populations are small and again it may be wise to control them before they spread further.

In the future perhaps botanical surveys of the large shrub swamp should be carried out; this habitat is likely to support some unusual species. Another project that would be great for some later time would be to re-establish the population of Mountain Sandwort at the summit.

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### Mt Pisgah ERT Survey Species List

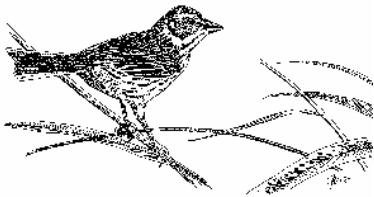
Acer	rubrum	Red maple	
Acer	saccharum	Sugar maple	
Alliaria	petiolata	Garlic mustard	*
Arenaria	glabra	Mountain sandwort	#
Betula	papyrifera	White birch	
Betula	lenta	Black birch	
Betula	alleghaniensis	Yellow birch	
Carpinus	caroliniana	Hornbeam	
Clethra	alnifolia	Sweet pepper bush	
Cornus	amomum	Silky dogwood	
Corydalis	sempervirens	Tall Corydalis	
Diphasiastrum	tristachyum	Ground cedar	
Dryopteris	marginalis	Marginal wood-fern	
Elaeagnus	umbellata	Autumn olive	*
Fagus	grandifolia	Beech	
Fraxinus	americana	White ash	
Gautheria	procumbens	Wintergreen	
Gaylussacia	baccata	Huckleberry	
Hamamelis	virginiana	Witch hazel	
Ilex	verticillata	Winterberry holly	
Juniperus	virginiana	Eastern red cedar	
Kalmia	latifolia	Mountain laurel	
Liriodendron	tulipifera	Tulip tree	
Lycopodium	obscurum	Princess pine	
Lycopodium	lucidulum	Shining clubmoss	
Mitchella	repens	Patridge berry	
Nyssa	sylvatica	Black gum	
Oenothera	biennis	Common evening primrose	
Ostrya	virginiana	Hop hornbeam	
Pinus	rigida	Pitch Pine	
Polypodium	virginianum	Common rock polypody	
Polystichum	acrosticoides	Christmas fern	
Potentilla	simplex	Old field cinquefoil	
Potentilla	recta	Sulfur cinquefoil	
Prunella	vulgaris	Heal all	
Prunus	serotina	Black cherry	
Quercus	ilicifolia	Bear oak	
Quercus	alba	White oak	
Quercus	velutina	Black oak	
Rhododendron	sp.	Azalea	
Rosa	multiflora	Multiflora rose	*
Rubus	sp.	Blackberry	
Rubus	flagellaris	Dewberry	
Sassafras	albidum	Sassafras	
Schizachyrium	scoparium	Little bluestem	
Smilax	rotundifolia	Green briar	
Solidago	sp.	Goldenrod	
Spirea	alba	Meadowsweet	
Symplocarpus	foetidus	Skunk cabbage	
Vaccinium	pallidum	Blueberry	
Vaccinium	corymbosum	Highbush blueberry	

Veronica	sp.	speedwell
Vitus	sp.	Grape

\* Non-native invasive  
# State Threatened

# THE NATURAL DIVERSITY DATA BASE

The Natural Diversity Data Base maps and files regarding the project area have been reviewed. According to our information, there are records for State Endangered *Pooecetes gramineus* (vesper sparrow) and State Special Concern *Caprimulgus vociferous* (whip-poor-will) from this area of Durham.



(CT DEP)

The vesper sparrow (*Pooecetes gramineus*), an endangered species in Connecticut, is a grassland bird species that prefers old fields, upland meadows, sandplain grasslands and the weedy edges of crop fields that are usually 30 acres or more in size. Due to the lack of these habitat types, it is unlikely that this species is present on the Mount Pisgah parcel.

The whip-poor-will (*Saprimulgus vociferous*), a species of concern in Connecticut, favors open mixed hardwood forest, second-growth or sapling stage areas. Its breeding season is from through July.

Additionally, avian surveys conducted during the breeding last year (2005) by environmental consultants, just south of the Pisgah property in Guilford, yielded whip-poor-wills.

(CT DEP)



special  
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late May

season  
Mount

The Wildlife Division has not made an on-site inspection of the project area. Consultation with this office should not be substituted for site-specific surveys that may be required for environmental assessments. This is a preliminary site review and is not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to the DEP for the proposed site. Please be advised that should state permits be required or should state involvement occur in some of other fashion, specific restrictions or conditions relating to the species discussed above may apply. In this situation, additional evaluation of the proposal by the DEP Wildlife Division should be requested and species-specific surveys may be required.

Furthermore, there is a State Threatened plant species *Arenaria glabra* (Smooth Mountain Sandwort) found in the project area. This is a sensitive area. If any actions or activities are planned for this area please contact our program botanist, Ms. Nancy Murray at 860-424-3589 or email at: [nancy.murray@po.state.ct.us](mailto:nancy.murray@po.state.ct.us). Additional information may be found in the Botanical Review section.

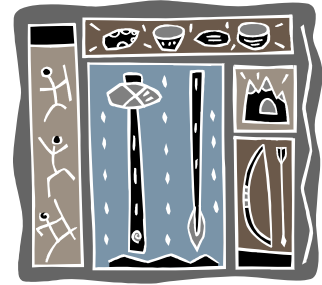
The Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Natural Resources Center's Geological and Natural History Survey and cooperating units of DEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations.

Consultations with the Data Base should not be substitutes 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 into the Data Base as it becomes available.

Please be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications to DEP for the site.

# ARCHAEOLOGICAL AND HISTORICAL REVIEW

The Office of State Archaeology (OSA) and the State Historic Preservation Office (SHPO) have no known archaeological sites listed in our state files for the Mount Pisgah property. However, local legends of Indian use of Mount Pisgah have been told us and the topographic features of Chalker Cream Pot Brooks suggest a high sensitivity for undiscovered archaeological resources. These predicted sites would most likely represent prehistoric hunting and gathering campsites utilized by Native Americans over the past 5,000 years.



and

Mount Pisgah area has never had professional archaeological testing. Should further funding become available, and archaeological survey of the open space area would very likely yield a site with a great deal of integrity and provide important information about past human adaptation in the area.

The OSA and SHPO recommend that should any projects be proposed for the Mount Pisgah Open Space Area that may require below-ground excavation that an archaeological survey be conducted for those areas prior to any earth moving activities. However, should the area be maintained as open space no archaeological fieldwork would be required. The property would offer a wonderful outdoor laboratory for researchers studying Native American life ways.

# **RECREATION PLANNER COMMENTS**

The 180 acre Mount Pisgah property owned by the Town of Durham is in itself a desirable piece of open space. However, it is also strategically significant, as a key element in the so-called “East Wall” of Connecticut’s Central Lowland. This geologic feature separates the Mesozoic Valley of Central Connecticut from the older, hard-rock Eastern Uplands and is therefore a key landscape-shaping feature and potential open space corridor or greenway. Thus this property forms part of a nearby continuous band of protected land including the state forest holdings across Route 79 to the east and the Middlesex Land Trust’s Mica Hill property to the west. As such, it helps provide a routing for the Mattabesett Trail, a regionally significant hiking trail.

The property basically consists of Mount Pisgah, a rocky knob offering fine views to the northwest. It also includes much of the upper valley of Chalker Brook, a hilly, heavily wooded area extending southerly to the Madison town line.

Historically Mount Pisgah in particular has been subject to vehicular issue, as seen in the visible erosion damage. Fortunately this problem has now been controlled by barriers to prohibit further impact. Because of its physical character, management as passive open space seems most appropriate, as well as providing the previously mentioned routing for the Mattabesett Trail, a proposed National Scenic Trail. Silvicultural potential seems limited by poor site quality on Mount Pisgah itself, although some active forestry may be feasible on the southern Chalker Brook section with appropriate stream protection measures. In this reviewer’s opinion, hunting seems a debatable use because of the property’s limited size and proximity to homes on Creampot and Dead Hill Roads. Therefore the issue of hunting should be subject to local determination of feasibility and acceptability.



## **CONNECTICUT FOREST AND PARK ASSOCIATION POLICY USE OF THE BLUE-BLAZED HIKING TRAILS**

approved by the Trail Use Policy Subcommittee: January 23, 2002

approved by the Trails Committee: March 27, 2002

approved by the Board of Directors: April 17, 2002

In 1929, the Connecticut Forest and Park Association (“CFPA”) established the Blue-Blazed Hiking Trail System. CFPA is a private, non-profit conservation organization with offices in Middlefield, Connecticut. The Blue-Blazed Hiking Trail System has grown over time to include roughly 700 miles of public hiking footpaths across the State of Connecticut. The Blue-Blazed Hiking Trails are maintained by dedicated CFPA volunteers. The Blue-Blazed Hiking Trails provide the hiking public with an outdoor experience of peace and respite. CFPA maintains these Trails to keep them safe for hiking and to ensure that any environmental impact is minimal.

The Blue-Blazed Hiking Trail System enjoys wide recognition and use throughout the State of Connecticut. The public has recognized the importance of these Trails as hiking trails, as Section 23-10a of the Connecticut Statutes states:

Those portions of the Connecticut blue-blazed trail system which cross state property are hereby designated as state hiking trails.

Also, in 2001 the Blue-Blazed Hiking Trail System was designated an official state “greenway” by Governor John Rowland and the Connecticut Greenways Council. As a result of the greenway designation, the Blue-Blazed Hiking Trail System will be included in the State Plan of Conservation and Development.

CFPA established and maintains the Blue-Blazed Hiking Trails for the benefit and enjoyment of the general public. However CFPA does not, for the most part, own the land traversed by these trails. While some properties are public forests or parks, most are in private ownership. All trail landowners are owed respect and gratitude by CFPA and those who use the trails. It is not CFPA policy to protect the Blue-Blazed Hiking Trails by pursuing adverse possession claims. CFPA recognizes that the owner of a property crossed by a BlueBlazed Hiking Trail has the ultimate control over what is allowed on his land and on that portion of the Blue-Blazed Hiking Trail. CFPA will strive to resolve any differences that may arise between a trail landowner and CFPA. The purpose of this policy is to establish rules for the use of the Blue-Blazed Hiking Trails.

### Use of Blue-Blazed Hiking Trails

#### I. State Lands

Approximately one-fourth of the Blue-Blazed Hiking Trail System is on land owned by the State of Connecticut. On these properties the use of the Blue-Blazed Hiking Trails are subject to the Connecticut law and state departmental policy described below. This law and policy constitute CFPA policy for the use of the Blue-Blazed Hiking Trail System on state land.

Section 23-10a of the Connecticut General Statutes states:

those portions of the Connecticut blue-blazed trail system which cross state property are hereby designated as state hiking trails.

The Department of Environmental Protection, Bureau of Outdoor Recreation, State Parks Division, Policy/Procedure #310, dated

September 12, 1995, entitled “Multiple Use Trail Policy for Park & Forest Recreation Areas — Existing Trails” states in “Trail Use” Section 1.1:

Trail uses, other than hiking, shall be prohibited on the Appalachian Trail and Connecticut Forest & Park Association maintained trails except where these trails utilize maintained roads or, where DEP Authorized or Blazed trails supporting other uses, coincide. No motorized, off-road use will be allowed, except where permission for such use is specifically authorized. II. Non-State Lands excluding CFPA Lands and Easements

#### A. Pedestrian Footpath

The Blue-Blazed Hiking Trail System consists predominantly of a network of footpaths designed for hiking. Many of the Blue-Blazed Hiking Trails are situated on steep slopes and cliff edges and in densely wooded areas that pose serious hazards to those not traveling on foot. The Blue-Blazed Hiking Trails are neither designed nor maintained to the standard necessary to accommodate hoof, bicycle, or motorized vehicle traffic. CF’PA volunteers design and construct bridges, install waterbars and other erosion control measures, and trim vegetation with foot traffic in mind. Other modes of transportation may destroy the Trails, cause erosion or damage, or create hazardous and unsafe conditions. The Blue-Blazed Hiking Trails are, in general, narrow, steep and winding enough that encounters between a hiker and a bicyclist or motorized vehicle could prove dangerous. For these reasons, it is the policy of CFPA that the Blue-Blazed Hiking Trails not be used by persons on motorcycles, all-terrain vehicles, bicycles, horses, llamas, and other hooved animals or by persons using motorized vehicles, except as defined below.

#### B. Bicycle and Equestrian Traffic

Some portions of the Blue-Blazed Hiking Trail System are suited to multiple uses, such as equestrian and non- motorized bicycle traffic. CFPA supports these uses of the Blue-Blazed Hiking Trails in areas where the host landowner has granted permission and where CFPA has determined that the design of the trail is conducive to these uses (e.g. woods road)

#### C. Motorized Vehicle Traffic

Motorized vehicles, including all-terrain vehicles, motorcycles and snowmobiles, may be used and enjoyed in

safe and responsible manner on certain trails with landowner permission and in accordance with all applicable laws and regulations. CFPA does not, however, support the use of motorized vehicles on any Blue-Blazed Hiking Trail except where the host landowner has granted permission for such use and has informed CFPA of such permission.

#### D. Other Motorized Vehicle Traffic

CFPA supports the use of motor vehicles (passenger cars, trucks, tractors, skidders, etc.) on the Blue-Blazed Hiking Trails in the following circumstances only:

1. where the trail follows a public road;
2. where the trail follows a farm road and the landowner has granted permission;
3. where the trail follows a woods road, logging road or skid trail and the landowner has granted permission.

### III. CFPA Lands and Easements

#### A. CFPA Lands

Blue-Blazed Hiking Trails on land owned by CF’PA in fee shall be designated for foot traffic only. Other uses shall be permitted only with written permission from CFPA or as allowed by a property management plan. CEPA lands may include other trails that are designed for multiple uses. Permitted uses on such trails will be determined by a property management plan.

#### B. CFPA Conservation Restriction and Easements



The use of Blue-Blazed Hiking Trails on land over which CFPA holds a conservation restriction or easement shall be that permitted under the terms of the restriction or easement. On such properties, CE'PA shall seek to limit the use of the Blue-Blazed Hiking Trails to foot traffic only.

#### C. CFPA Trail Easements

The use of a Blue-Blazed Hiking Trail on land over which CFPA holds a trail easement shall be that permitted under the terms of the easement.

### Iv. All Lands

#### A. Emergency Vehicle Use

CF'PA accepts the use of the Blue-Blazed Hiking Trails by fire, police, Connecticut Department of Environmental Protection, or other emergency vehicle in emergencies or when needed for enforcement, fire suppression or other purposes of this nature.

#### B. Universal Access

CF'PA will strive to make sections of the Blue-Blazed Hiking Trails accessible to those who use wheelchairs and those who have difficulty walking where the host landowner has granted permission and where site and trail conditions (distance from trailhead, slope, wetness, rocks, roots, etc.) permit.

#### C. Dogs

Dogs provide companionship for many hikers, but can be a source of fear or annoyance for others. Unleashed dogs can be dangerous, create safety hazards, and be harmful to wildlife and fragile vegetation. To allow both dog-walkers and non-dog-walkers to enjoy the Blue-Blazed Hiking Trails, CF'PA requires that dogs accompany hikers only if dogs are leashed and if the landowner allows dogs.

#### D. Camping

Camping is permitted along the Blue-Blazed Hiking Trails only at designated sites with permission of the landowner.

#### E. Fires

Campfires are permitted along the Blue-Blazed Hiking Trails only at designated sites with permission of the landowner.

#### F. Hunting

Hunters and hikers both seek enjoyment of the outdoors and share many conservation interests. Hiking and hunting are compatible uses for conservation land. With proper precautions taken, hikers and hunters may safely enjoy their outdoor pursuits.

Hikers should be aware that hunting with bow and arrow and firearms occurs on public and private properties crossed by the Blue-Blazed Hiking Trails, subject to all applicable laws and regulations. Hikers are strongly encouraged to wear blaze orange clothing during hunting seasons and to consult the State of Connecticut, Department of Environmental Protection, for information about hunting seasons and hunting safety.

#### G. Passive Winter Recreation

The Blue-Blazed Hiking Trails are not designed with uses such as cross-country skiing in mind. However, CFPA accepts passive winter recreational uses, such as cross- country skiing and snowshoeing, on the Blue-Blazed Hiking Trails except where prohibited by the landowner. Participants in passive winter recreational uses are urged to exercise good judgment and common sense.

#### H. General Behavior

Members of the public should behave in a decorous and

courteous manner at all times while using the Blue-Blazed Hiking Trails. Trail users should:

- . obey all signs;
- . stay on established trails;
- . carry out everything carried in;
- . wear appropriate clothing and shoes and be properly equipped and prepared;
- . leave the trail in better condition;
- . report problems or hazards to CFPA.
- . not take flowers, vegetation, mushrooms, rocks, etc.;
- . not disturb wildlife.

Trail users should use caution and good judgment while using and planning to use the Blue-Blazed Hiking Trails. All trail users should consult the Connecticut Walk Book and the CFPA web site at <http://www.ctwoodlands.org>, for safety tips and more information.

# **ABOUT THE TEAM**

The Eastern Connecticut Environmental Review Team (ERT) is a group of professionals in environmental fields drawn together from a variety of federal, state and regional agencies. Specialists on the Team include geologists, biologists, foresters, soil specialists, engineers and planners. The ERT operates with state funding under the supervision of the Eastern Connecticut Resource Conservation and Development (RC&D) Area — an 86 town region.

*The services of the Team are available as a public service at no cost to Connecticut towns.*

## **PURPOSE OF THE TEAM**

The Environmental Review Team is available to help towns and developers in the review of sites proposed for major land use activities. To date, the ERT has been involved in reviewing a wide range of projects including subdivisions, landfills, commercial and industrial developments, sand and gravel excavations, active adult, recreation/open space projects, watershed studies and resource inventories.

Reviews are conducted in the interest of providing information and analysis that will assist towns and developers in environmentally sound decision-making. This is done through identifying the natural resource base of the project site and highlighting opportunities and limitations for the proposed land use.

## **REQUESTING A REVIEW**

Environmental reviews may be requested by the chief elected official of a municipality and/or the chairman of town commissions such as planning and zoning, conservation, inland wetlands, parks and recreation or economic development. Requests should be directed to the chairman of your local Conservation District and the ERT Coordinator. A request form should be completely filled out and should include the required materials. When this request is reviewed by the local Conservation District and approved by the ERT Subcommittee, the Team will undertake the review on a priority basis.

For additional information and request forms regarding the Environmental Review Team please contact the ERT Coordinator: 860-345-3977, Eastern Connecticut RC&D Area, P.O. Box 70, Haddam, Connecticut 06438, e-mail: [ctert@comcast.net](mailto:ctert@comcast.net)