

Darrow Pond Open Space

East Lyme, Connecticut



Eastern Connecticut Environmental Review Team Report

Eastern Connecticut Resource Conservation and Development Area, Inc.

Darrow Pond Open Space East Lyme, 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
First Selectman
East Lyme, Connecticut**

**December 2013
#633**

Acknowledgments

This report is a result of a request from the East Lyme First Selectman and the Director of Planning to the Eastern Connecticut Conservation District (ECCD) along with the Connecticut Environmental Review Team Subcommittee for their consideration and approval. The request was approved, and the project 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 Thursday, March 14 and Thursday, March 28, 2013.

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**Participated on field reviews but report submitted separately.*

***Participated on field review, no report submitted.*

I would also like to thank Gary Goeschel, East Lyme Planning Director, Mark Nickerson, Deputy First Selectman, Art Carlson and Ruth Reluga, Darrow Pond Open Space Committee, Charles Reluga, Norman Bender and Joe Mingo, East Lyme Inland Wetlands Agency, and Ralph Bates, East Lyme Land Trust, for their cooperation and assistance during this environmental review.

Prior to the review days, each Team member received a summary of the proposed project with various maps. During the field review and after Team members received additional information in the form of reports and additional maps. Some Team members made separate or additional field visits to the sites. Following the reviews, 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 reviewing the Darrow Pond Open Space parcel.

If you require additional information please contact:

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Introduction

The Town of East Lyme has requested a comprehensive environmental review and natural resource inventory of the recently acquired 301-acre Darrow Pond parcel, located on Mostoway Road. The property was once a farm, and is presently a mix of open fields, hardwood forests, wetlands, vernal pools and open water.

Approximately 200 acres of the parcel will be permanently conserved, and the remaining land will be available for municipal use, which could include athletic fields, municipal facilities, and/or future public drinking water supply. The property is located adjacent to the Town of East Lyme's aquifer protection area and has the potential for development as a future public drinking water supply. The property had previously been designated for development, including an 18-hole golf course, and a 600-unit active adult community.

The land is adjacent to the town's Aquifer Protection Area and is between 3,558 acres of existing open space including Camp Pattagansett, the Yale Sheffield Scientific School, and Nehantic State Forest.

Objectives

The town is requesting a comprehensive environmental review/natural resource inventory for development of a long term property management plan. 200+/- acres will be conserved permanently for the cultural and natural resources of the pond, including the recreational use of the land and existing trails. 40 acres will contain water tanks that will be constructed for water storage as part of the Regional Water Supply Interconnection Project. And about 60 acres will be available for municipal use which could include ball fields, municipal facilities, etc.

Issues that have been identified include adequate parking for recreational users, development of trails including connection to existing trails on adjacent properties, protection of existing wetlands and vernal pools, and erosion and sedimentation problems created by previous uses.

The ERT Process

Through the efforts of the East Lyme Selectman and Planning Office this environmental review and report was prepared for the Town of East Lyme.

This report provides a natural resource inventory 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 town.

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 reviews were conducted on March 14 and 28, 2013. Some Team members made separate and additional field visits on their own. The field review 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.



Legend	
	Darrow Pond Property
	Waterbodies
	Parcels
	Yale Property
	Existing Open Space - 3656 acres (17%)



DISCLAIMER

Although every effort has been made to ensure that the spatial data on any map that is produced is of the highest accuracy and quality, it is, nevertheless, only appropriate for planning purposes. The information, as presented, is not intended for the legal interpretation of boundary or property lines, either municipal or private.

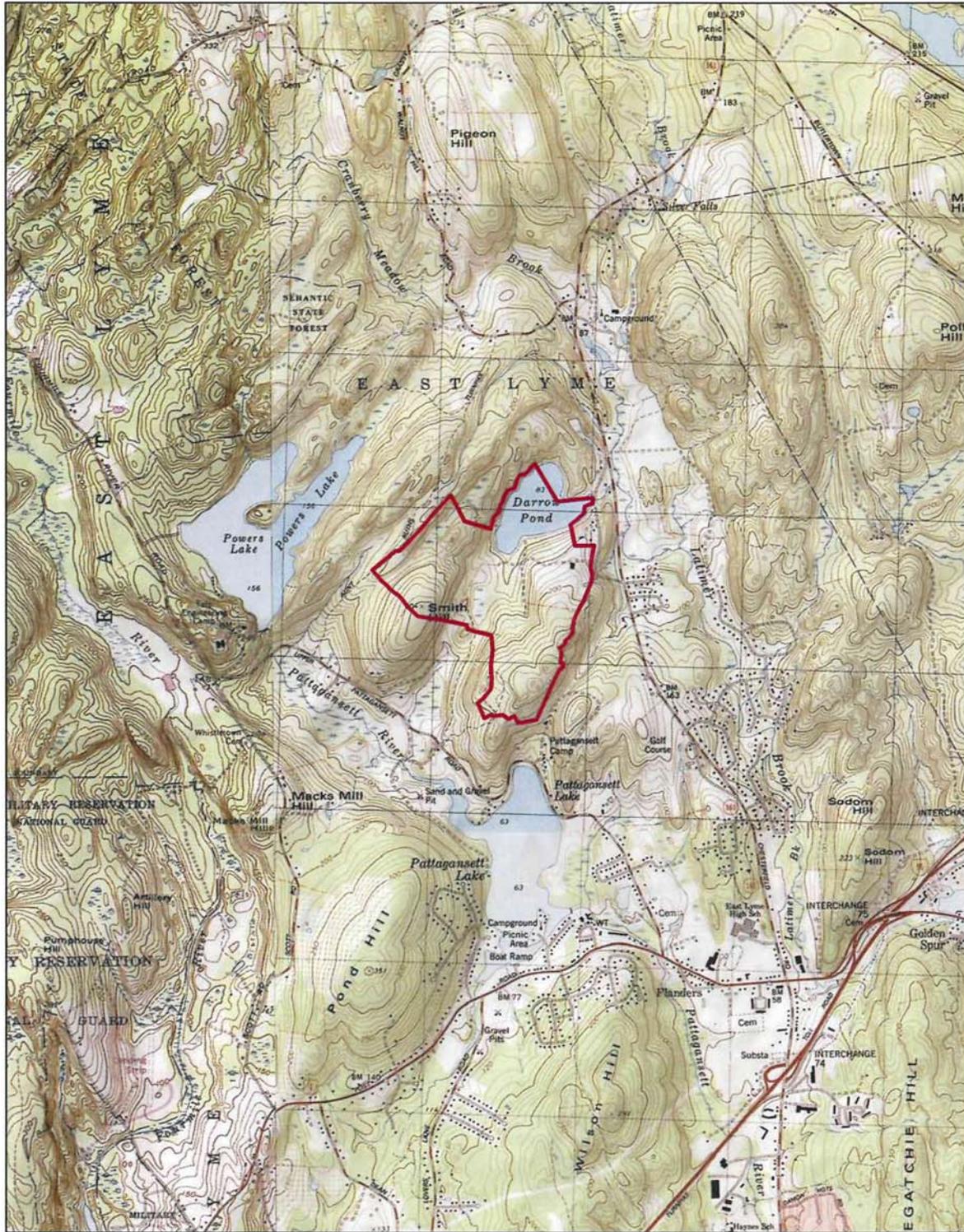
0 2,700 5,400 10,800 16,200 21,600
 Feet

1 inch = 4,754 feet

Town of East Lyme,
 Connecticut

Darrow Pond


 Town of East Lyme
 Department of Planning
 July 2012



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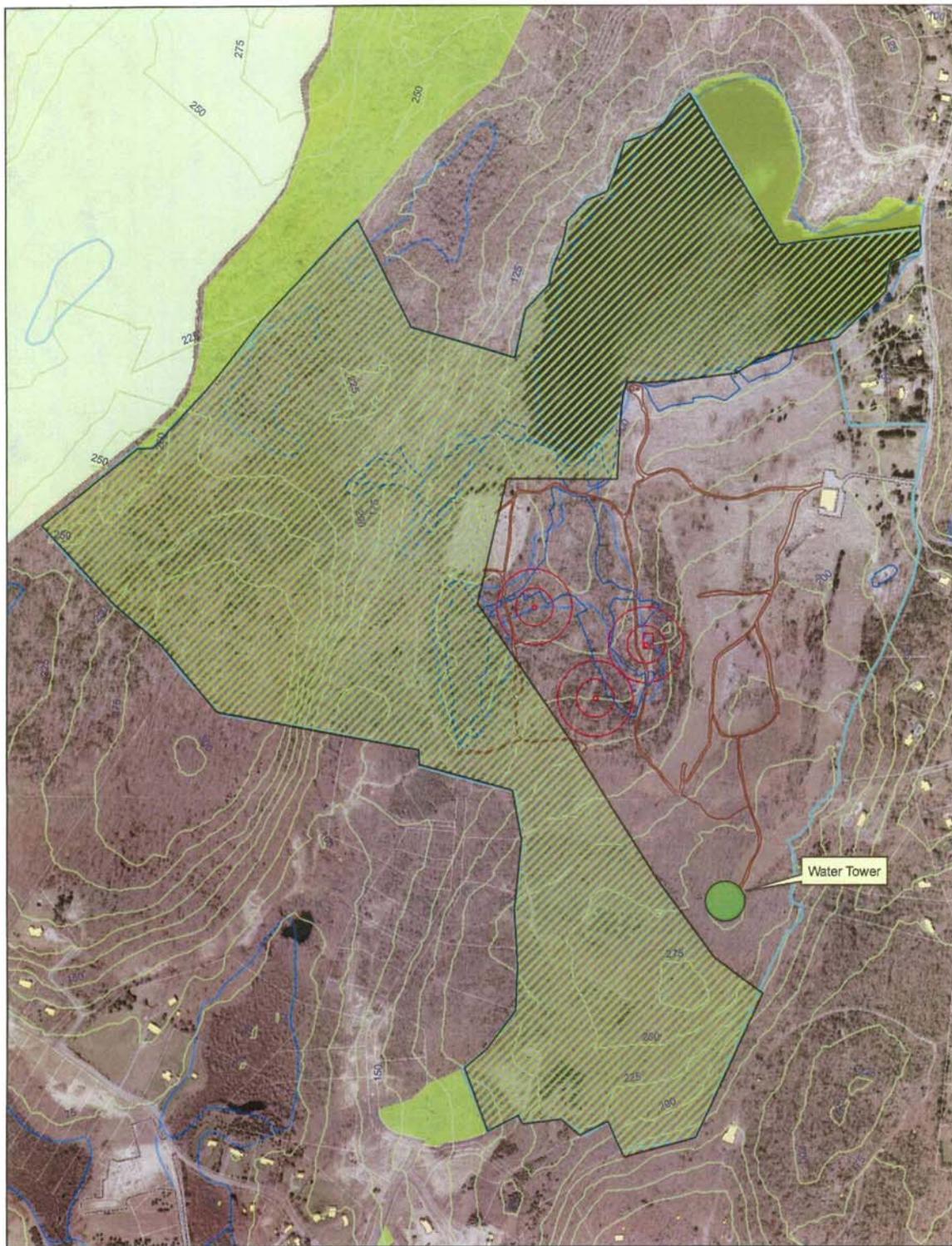
1 inch equals 2,000 feet

Town of East Lyme,
Connecticut

Darrows Pond



Town of East Lyme
Department of Planning
July 2012

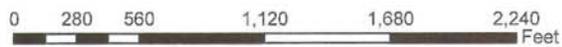


Legend	
	Conservation Easement Area
	Darrown Pond Property
	Parking Areas
	Contours
	Buildings
	Wetlands
	Parcels
	Yale Property
	Existing Open Space



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1 inch = 503 feet

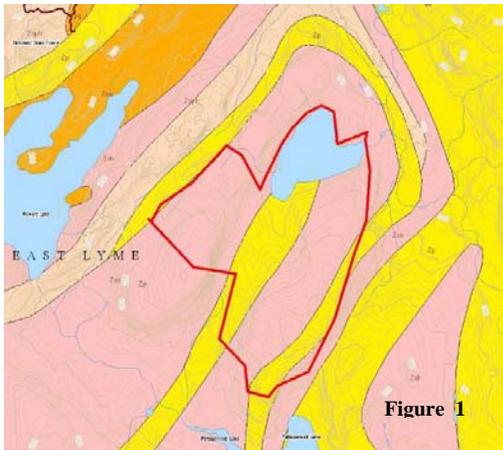
Town of East Lyme,
Connecticut

Darrown Pond

Town of East Lyme
Department of Planning
February 2013

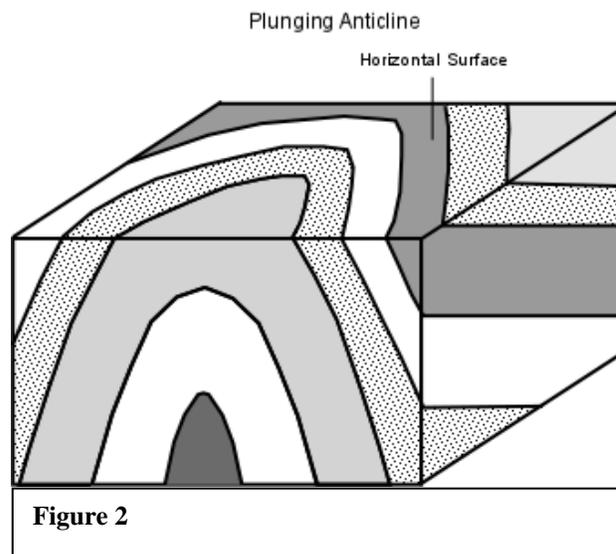
Geology

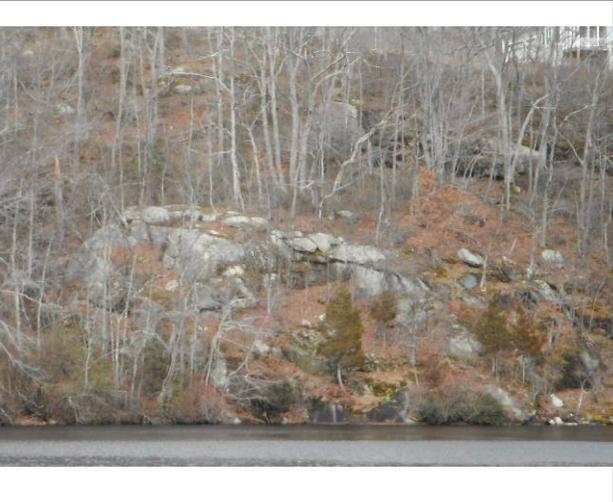
Bedrock Geology



Interestingly, the site (Figure 1, outlined in red) seems to lie near the apex of a rock formation called a *plunging anticline* (Figure 2) described as being originally horizontal rock layers that have been folded downward and intersect a horizontal surface. The geologic unit shown in Figure 1 as shaded pink has been identified as Hope Valley Alaskite Gneiss which is defined as light-pink to gray, medium- to coarse-grained granitic gneiss. The geologic unit shown as shaded yellow has been identified as the Plainfield Formation which is characterized as inter-layered thinly bedded quartzite, mica schist, and dark-gray gneiss. Both formations are part of the

Avalonian (Continental) Terrane / Avalonian Anticlinorium (a series of anticlines) and estimated to be from the Proterozoic Eon aged from 2.5 billion to 542 million years.

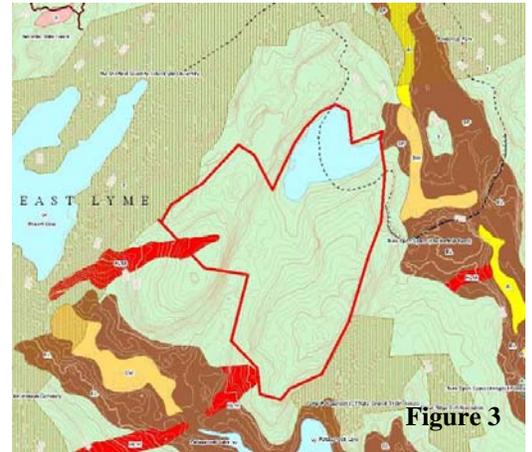


	
<p>Hope Valley Alaskite Gneiss – Photos taken at Kensington Drive shown above and below, granitic gneiss with weathered garnets and biotite.</p>	<p>Plainfield Formation – Photos taken north west of and on Darrow Pond shown above and below, gray gneiss.</p>
	

Quaternary and Surficial Geology

The Quaternary period in geologic time began about 1.8 million years ago and continues today. During the last million years the northern hemisphere has experienced numerous ice ages of varying intensity. At least two have been intense and spread ice as far south as Long Island. The last ice age ended about 15,000 years ago; during its height, ice more than a mile thick covered East Lyme.

Looking at the property area on The Quaternary Geologic Map of Connecticut (Figure 3) the black dashed line shown indicates an inferred glacial ice margin, evidence of which would have been provided as debris released during stalled melting (ice moving generally to the north). The red shaded area entering the property in the west is described as being End Moraine Deposits. Glacial end moraines form as a result of flowing ice (moving generally to the south) acting like a plow and pushing underlying materials to a pile once it has stopped.

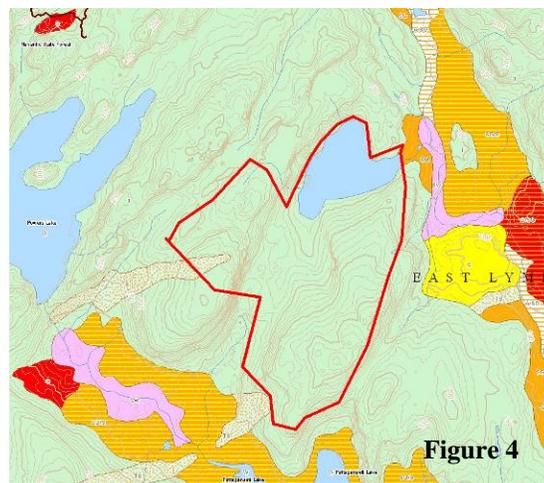


Glacial till (pale green area) covers most of the property's surface. Flowing glacial ice is a powerful agent of erosion. The ice freezes soil and rocks into its base and uses those particles like sand paper to scrape and abrade the underlying bedrock. The result is to round off the hill tops and in the process, create a huge amount of sand, mud and gravel; essentially ground up bedrock. This ground-up debris is referred to as glacial till (or till).

The Surficial Materials map for Connecticut is presented as Figure 4 and shows the property area covered by glacial till (pale green) and also shows the material of the above described End Moraine (pale yellow) which can range in size from clay to large boulders.

Comments

The site generally has no outstanding geologic outcrops. However, some of the material shared here might be interesting on an educational kiosk.



References

Bell, Michael, 1985, *The Face of Connecticut*. State Geological and Natural History Survey, Bull. 110, 196p.

Rodgers, John, 1985, *Bedrock Geological Map of Connecticut*. State Geological and Natural History Survey of Connecticut, Nat'l. Resource Atlas Series, 1:125,000, 2 sheets.

Stone, J.R., Schafer, J.P., London, E.H., DiGiacomo-Cohen, M.L., Lewis, R.S., and Thompson, W.B., 2005, *Quaternary Geologic Map of Connecticut and Long Island Sound Basin* (1:125,000). U.S. Geol. Surv. Sci. Invest. Map # 2784.

Connecticut Surficial Materials information was initially compiled at 1:24,000 scale (1 inch = 2,000 feet) then recompiled for a statewide 1:125,000-scale map, the *Surficial Materials Map of Connecticut* (PDF, 26 Mb), Stone, J.R., Schafer, J.P., London, E.H., DiGiacomo-Cohen, M.L., Lewis, R.L., and Thompson, W.B., 2005, U.S. Geological Survey Scientific Investigation Map 2784, 2 sheets, scale 1:125,000.

Conservation District Review

Introduction

The Town of East Lyme has requested a comprehensive environmental review and natural resource inventory of the recently acquired 301-acre Darrow Pond parcel, located on Mostowy Road. The property was once a farm, and is presently a mix of open fields, hardwood forests, wetlands, vernal pools and open water.

Approximately 200 acres of the parcel will be permanently conserved, and the remaining land will be available for municipal use, which could include athletic fields, municipal facilities, and/or future public drinking water supply. The property is located adjacent to the Town of East Lyme's aquifer protection area and has the potential for development as a future public drinking water supply. The property had previously been designated for development, including an 18-hole golf course, and a 600-unit active adult community.

Issues that have been identified include adequate parking for recreational users, development of trails including connection to existing trails on adjacent properties, protection of existing wetlands and vernal pools, and problems (including erosion) created by previous uses.

This review conducted by the Eastern Connecticut Conservation District (ECCD) focuses on potential property uses and conservation of soil and water resources.

Site Description

The Darrow Pond parcel is 301 acres, with frontage on Mostowy Road, and includes most of the 47-acre Darrow Pond. The parcel is a mix of abandoned farm fields and hardwood forests. The topography is varied, with ridgelines on the east and west portions of the property, and a valley containing wetlands and a stream flowing to Darrow Pond in-between. The entrance to the parcel is paved and contains the foundation of a former commercial structure and associated paved parking area. The parking area serves as the trail head to the network of old roads and trails on the site. The parcel borders land owned by Yale University Sheffield Scientific School, which in turn connects to protected open space including Nehantic State Forest and the Eight Mile River Wild and Scenic watershed. There are signs of previous disturbance on the property, including old roadways and an existing wetland crossing. The property was previously under development as an 18-hole golf course. Evidence of disturbance associated with the golf course, including clearing, possible installation of irrigation, and drainage improvements are evident, as well.

Potential Land Uses

The Town of East Lyme has expressed interest in several uses for the Darrow Pond parcel, including passive recreation, expansion of municipal athletic fields, future public drinking water supply and agriculture.

1. Passive recreation/education:

The varied topography and presence of existing trails and adequate parking, as well as the potential to connect to trail systems on bordering parcels, make the parcel very suitable for recreational hiking and cross-country skiing. The presence of multiple habitats, including fields, forest edge, secondary growth woodlands, wetlands, and open water,

creates the potential for educational opportunities including informational signage, self-guided walks or even periodic guided walks or nature programs through the municipal Conservation of Natural Resources Commission or Recreation Commission.

Recommendations:

- Develop, improve and expand the existing trail system, including trail mapping and installation of trail signage.
- Provide educational opportunities for visitors, including signage, brochures, or structured programs.

2. Expansion of municipal athletic fields:

Due to the varied elevation relief throughout the site, the most suitable area for athletic fields is in the area to the south of the former J.C. Penney building foundation. However, this area is designated a prime farmland soil. The Town may want to weigh the benefits of preserving this soil for agricultural use versus developing it for athletic field use.

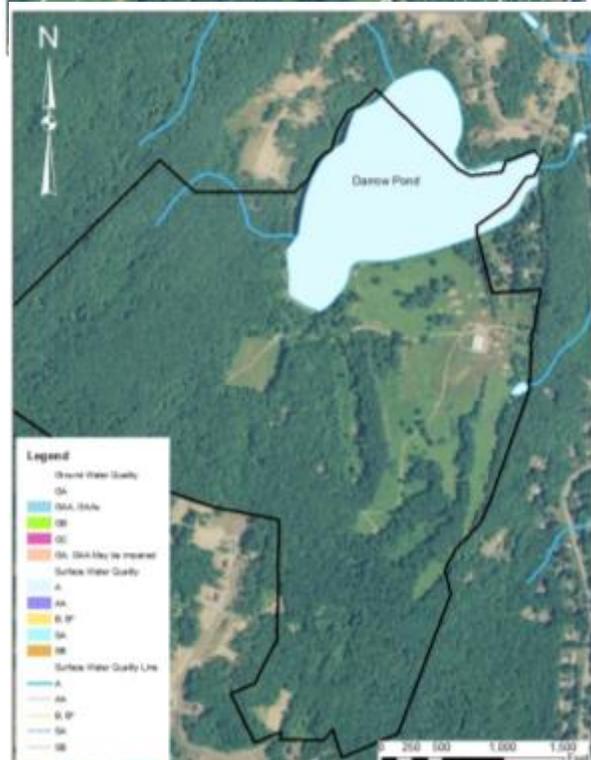
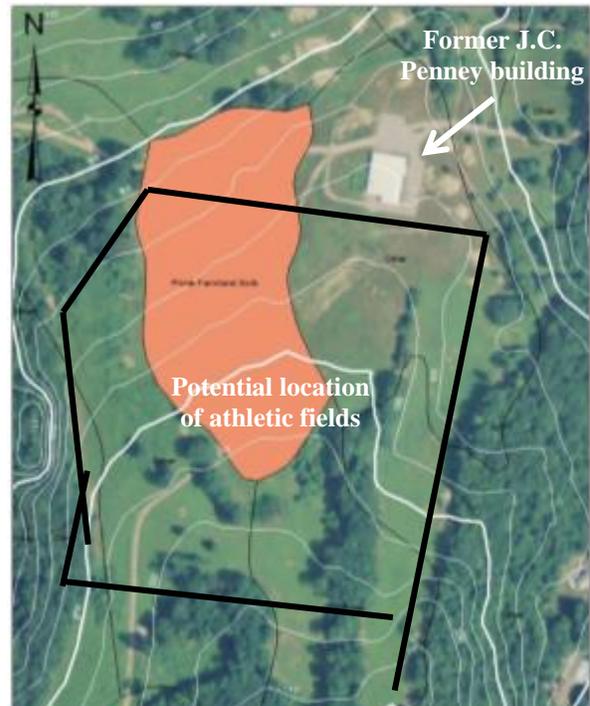
Recommendations:

- Evaluate the value of additional municipal athletic facilities versus preservation of prime farmland soils.

3. Drinking water supply:

The quality of surface and ground water on the Darrow Pond parcel is very good. Surface waters are designated by the State of Connecticut as Class A. Designated supported uses for Class A surface waters include: habitat for fish and other aquatic life and wildlife; potential drinking water supplies; recreation; navigation; and water supply for industry and agriculture.

Ground water is designated Class GA. Designated supported uses for Class GA ground waters include: existing private and potential public or private supplies of water suitable for drinking without treatment; baseflow for hydraulically-connected surface water bodies.



Recommendations:

- Maintain forest cover to protect water quality.
- Prohibit use of motorized vehicles on the property except in designated areas.
- Prohibit use of motorized boats on Darrow Pond.

4. Agriculture:

Approximately 70 acres, or 23%, of the parcel is in open fields. Most of the fields are overgrown with invasive plants, including multiflora rose (*Rosa multiflora*) and autumn olive (*Elaeagnus umbellata*). It is recommended that the Town explore the potential to restore overgrown and invasive-filled fields and lease them to local farmers as hay land, which is an excellent opportunity to keep the land open and maintain important edge habitat for wildlife. In order to keep the option of agricultural use open to the Town, any conservation easement placed on the parcel should include clauses to allow for agricultural activities on the land. If the Town does ultimately arrange for agricultural use of the property, it is recommended that the Town impose whatever conditions it deems appropriate.

Recommendations:

- Remove invasive plants from fields.
- Lease fields to local farmers.
- Include language in the conservation easement to allow farming and provide protections for wildlife.

Soil Resources

As part of the review, ECCD prepared a soil map of the site using the USDA-NRCS Web Soil Survey. It is attached at the end of the report. Following is a brief description of each of the soil series mapped for this site.

RIDGEBURY SERIES: The Ridgebury series consists of very deep, somewhat poorly and poorly drained soils formed in till derived mainly from granite, gneiss and schist. They are commonly shallow to a densic contact. They are nearly level to gently sloping soils in low areas in uplands. Slope ranges from 0 to 15 percent. Saturated hydraulic conductivity ranges from moderately low to high in the solum and very low to moderately low in the substratum. Mean annual temperature is about 49 degrees F. and the mean annual precipitation is about 45 inches.

LEICESTER SERIES: The Leicester series consists of very deep, poorly drained loamy soils formed in friable till. They are nearly level or gently sloping soils in drainageways and low-lying positions on hills. Slope ranges from 0 to 8 percent. Permeability is moderate or moderately rapid in the surface layer and subsoil and moderate to rapid in the substratum. Mean annual temperature is about 50 degrees F., and mean annual precipitation is about 47 inches.

WHITMAN SERIES: The Whitman series consists of very deep, very poorly drained soils formed in glacial till derived mainly from granite, gneiss, and schist. They are shallow to a

densic contact. These soils are nearly level or gently sloping soils in depressions and drainageways on uplands. Permeability is moderate or moderately rapid in the solum and slow or very slow in the substratum. Mean annual precipitation is about 45 inches and mean annual temperature is about 49 degrees.

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. Saturated hydraulic conductivity is moderately low to high in the organic layers and high or very high in the sandy material. Slope ranges from 0 to 2 percent. Mean annual temperature is about 55 degrees C and the mean annual precipitation is about 49.5 inches.

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. Saturated hydraulic conductivity is moderately low to very high in the organic layers and moderately low to high in the loamy material. Slope ranges from 0 to 2 percent. Mean annual temperature is about 48 degrees F. and mean annual precipitation is about 47 inches

HINCKLEY SERIES: The Hinckley series consists of very deep, excessively drained soils formed in glaciofluvial materials. They are nearly level through very steep soils on terraces, outwash plains, deltas, kames, and eskers. Saturated hydraulic conductivity is high or very high. Slope ranges from 0 through 60 percent. Mean annual temperature is about 45 degrees F. and mean annual precipitation is about 45 inches.

WOODBIDGE SERIES: The Woodbridge series consists of moderately well drained loamy soils formed in subglacial till. They are very deep to bedrock and moderately deep to a densic contact. They are nearly level to moderately steep soils on till plains, hills, and drumlins. Slope ranges from 0 to 25 percent. Saturated hydraulic conductivity ranges from moderately low or moderately high in the surface layer and subsoil and low or moderately low in the dense substratum. Mean annual temperature is about 48 degrees F., and mean annual precipitation is about 46 inches.

SUTTON SERIES: The Sutton series consists of very deep, moderately well drained loamy soils formed in till. They are nearly level to strongly sloping soils on plains, low ridges, and hills, typically on lower slopes and in slight depressions. Slope ranges from 0 to 15 percent. Saturated hydraulic conductivity is moderately high or high throughout. Mean annual temperature is about 50 degrees F. and mean annual precipitation is about 47 inches.

CANTON SERIES: The Canton series consists of very deep, well drained soils formed in a loamy mantle underlain by sandy till. They are on nearly level to very steep glaciated plains, hills, and ridges. Slope ranges from 0 to 35 percent. Saturated hydraulic conductivity is high in the solum and high or very high in the substratum. The mean annual temperature is about 46 degrees F. and the annual precipitation is about 44 inches.

CHARLTON SERIES: The Charlton series consists of very deep, well drained loamy soils formed in till. They are nearly level to very steep soils on till plains and hills. Slope ranges from 0 to 50 percent. Saturated hydraulic conductivity is moderately high or high. Mean annual temperature is about 50 degrees F., and mean annual precipitation is about 47 inches.

CHATFIELD SERIES: The Chatfield series consists of moderately deep, well drained, and somewhat excessively drained soils formed in till. They are nearly level to very steep soils on glaciated plains, hills, and ridges. Slope ranges from 0 to 70 percent. Crystalline bedrock is at depths of 20 to 40 inches. Saturated hydraulic conductivity is moderately high to high in the mineral soil. Mean annual temperature is 51 degrees F. and mean annual precipitation is 38 inches.

HOLLIS SERIES: The Hollis series consists of well drained and somewhat excessively drained soils formed in a thin mantle of till derived mainly from parent materials that are very low in iron sulfides such as gneiss, schist, and granite. They are shallow to bedrock. They are nearly level through very steep upland soils on bedrock-controlled hills and ridges. Slope ranges from 0 through 60 percent. Saturated hydraulic conductivity is moderately high or high. Depth to hard bedrock ranges from 25 to 50 cm. Mean annual temperature is about 48 degrees F., and mean annual precipitation is about 50 inches.

PAXTON SERIES: The Paxton series consists of well drained loamy soils formed in lodgement till. The soils are very deep to bedrock and moderately deep to a densic contact. They are nearly level to steep soils on till plains, hills, and drumlins. Slope ranges from 0 to 45 percent. Saturated hydraulic conductivity is moderately high or high in the surface layer and subsoil and low to moderately high in the substratum. Mean annual temperature is about 50 degrees F., and mean annual precipitation is about 47 inches.

MONTAUK SERIES: The Montauk series consists of very deep, well drained soils formed in till derived primarily from granitic materials. These soils are on upland till plains and moraines. Slope ranges from 0 to 35 percent. Saturated hydraulic conductivity is moderately high or high in the solum and low to moderately high in the substratum. Mean annual temperature is about 49 degrees F, and mean annual precipitation is about 45 inches.

Selected Soil Interpretations

In addition to the mapping of site soils, ECCD provided information for each soil unit, identifying erosion hazards relative to the construction and maintenance of trails. The erosion hazard chart and associated ratings can be found at the end of this section. ECCD also reviewed site soils to identify wetland and farmland soils on the parcel. These soil maps can also be found at the end of this section. While general soil information can be helpful in identifying concerns with use or development, on-site investigations should be conducted to address specific concerns, such as activities adjacent to or within wetland soils.

Recommendations

- Soil erosion hazard tables should be reviewed prior to the construction of new trails to ensure the proposed trails are in suitable locations. Appropriate erosion & sediment control measures should be taken based on the erosion hazard rating.
- Consider best use of farmland soils on the parcel.

Water Resources

Water resources on the Darrow Pond property include the 47-acre Darrow Pond, two intermittent streams that flow to Darrow Pond from the west side of the property, and several pockets of wetlands (see the Wetland Soils map at the end of this section). It is likely that there are vernal pools on the parcel. Several standing pools of water were observed during the field review, however, at that time it was too early in the year for amphibian activity, so no obligate vernal species were observed.

Recommendations:

- Any activity proposed in or near a potential wetland should not be conducted until a wetland delineation conducted by a qualified soil scientist has been completed.
- Erosion & sediment control measures should be utilized to protect any wetland or watercourse adjacent to construction activities.
- The parcel should be evaluated by a qualified biologist to determine if any vernal pools exist on the property, and the locations should be documented for future preservation.

Erosion Issues

Several areas of moderate to severe erosion were noted on trails on the property. Two eroded areas were of particular concern; the trail leading from the parking area towards Darrow Pond, and a trail on the east side of the parcel which has a drainage pipe that discharges water from a seep at the top of the slope (in the area formerly designated for the golf course).



Severe erosion on the trail leading from the parking area toward Darrow Pond has led to extensive gullying and deposition of eroded materials at the bottom of the slope, including in a wetland area.



Severe erosion resulting from the outfall of a drainage pipe at the top of and ninety degrees to the slope has led to extensive gullying of this trail. The drainage pipe is not visible in this picture, but is located at the head of the gouged area near the large square rock.

Recommendations:

- Trail to Darrow Pond:
 - Divert water away from the trail at the top of the slope.
 - Install water bars at intervals along the trail to divert water and reduce flow velocities.
 - Stabilize eroded areas using appropriate fill material and E&S controls.

- Trail on east side of property:
 - Remove the drainage pipe from the top of the slope.
 - Divert water from the seep away from the slope.
 - Establish an alternative trail nearby, so that this trail can be abandoned.
 - Install a berm across the top of the slope to divert water. Loam and seed the slope to stabilize the soils.

Special Concerns

An inquiry to the CT DEEP National Diversity Database (NDDB) indicated the presence of several endangered plant or animal species in the vicinity of the Darrow Pond parcel.

Recommendations:

- Arrange for a qualified biologist/botanist to conduct a survey to determine if listed species are present on the property.
- Institute a plan to manage any species found on the property.
- Any new development on the site should refer to the plan for management recommendations.

References

Connecticut Council on Soil and Water Conservation and Connecticut Department of Environmental Protection, 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, May, 2002.

Connecticut Department of Environmental Protection, State of Connecticut, Water Quality Standards, February 25, 2011.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions. Available online at <http://soils.usda.gov/technical/classification/osd/index.html>. Accessed 4/3/13.

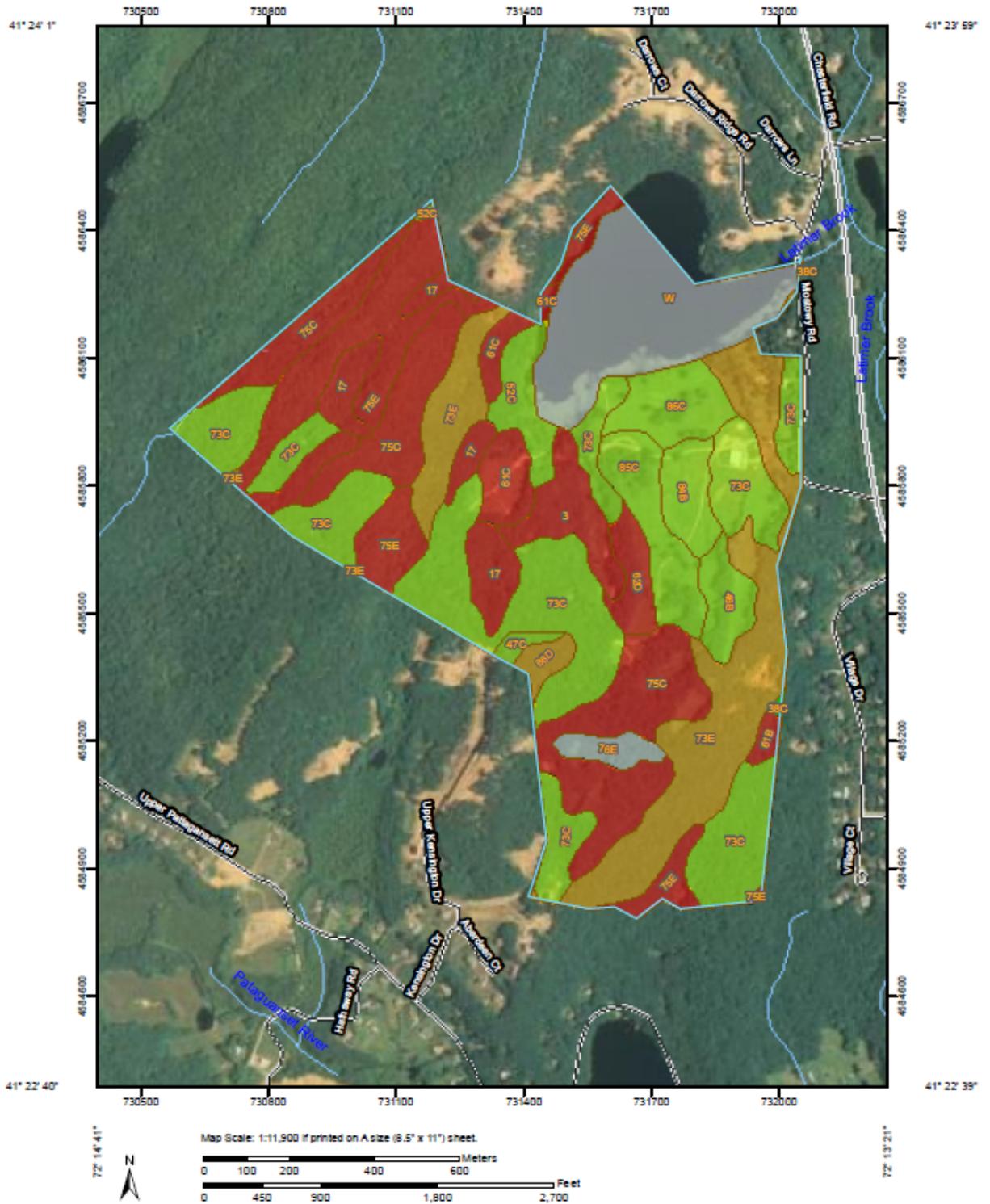
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Custom Soil Resource Report

Map Unit Legend (Darrow Pond Soils)

State of Connecticut (CT600)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, extremely stony	10.0	2.9%
17	Timakwa and Natchaug soils	14.2	4.1%
38C	Hinckley gravelly sandy loam, 3 to 15 percent slopes	0.3	0.1%
46B	Woodbridge fine sandy loam, 2 to 8 percent slopes, very stony	6.6	1.9%
47C	Woodbridge fine sandy loam, 2 to 15 percent slopes, extremely stony	1.5	0.4%
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	7.8	2.2%
61B	Canton and Charlton soils, 3 to 8 percent slopes, very stony	1.5	0.4%
61C	Canton and Charlton soils, 8 to 15 percent slopes, very stony	9.2	2.6%
62D	Canton and Charlton soils, 15 to 35 percent slopes, extremely stony	5.6	1.6%
73C	Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky	81.6	23.4%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	52.1	14.9%
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	46.4	13.3%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	38.0	10.9%
76E	Rock outcrop-Hollis complex, 3 to 45 percent slopes	3.8	1.1%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	7.2	2.1%
85C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony	12.4	3.6%
86C	Paxton and Montauk fine sandy loams, 3 to 15 percent slopes, extremely stony	10.2	2.9%
86D	Paxton and Montauk fine sandy loams, 15 to 35 percent slopes, extremely stony	2.7	0.8%
W	Water	38.1	10.9%
Totals for Area of Interest		349.3	100.0%

Darrow Pond Soils - Erosion Hazard Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)	
	Area of Interest (AOI)
Soils	
	Soil Map Units
Soil Ratings	
	Very severe
	Severe
	Moderate
	Slight
	Not rated or not available
Political Features	
	Cities
Water Features	
	Streams and Canals
Transportation	
	Rails
	Interstate Highways
	US Routes
	Major Roads
	Local Roads

MAP INFORMATION

Map Scale: 1:11,900 if printed on A size (8.5" x 11") sheet.

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: UTM Zone 18N NAD83

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

Soil Survey Area: State of Connecticut
 Survey Area Data: Version 10, Mar 31, 2011

Date(s) aerial images were photographed: 8/16/2006; 7/17/2006

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

Custom Soil Resource Report

Tables—Erosion Hazard (Road, Trail) (Darrow Pond Soils - Erosion Hazard)

Erosion Hazard (Road, Trail)— Summary by Map Unit — State of Connecticut (CT600)						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres In AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, extremely stony	Very Severe	Leicester (35%)	Horizon data present (1.00)	10.0	2.9%
			Whitman (15%)	Horizon data present (1.00)		
17	Timakwa and Natchaug soils	Very Severe	Timakwa (45%)	Horizon data present (1.00)	14.2	4.1%
			Natchaug (40%)	Horizon data present (1.00)		
			Calden (3%)	Horizon data present (1.00)		
			Maybld (3%)	Horizon data present (1.00)		
			Saco (3%)	Horizon data present (1.00)		
			Whitman (2%)	Horizon data present (1.00)		
			Menlo (2%)	Horizon data present (1.00)		
			Scarboro (2%)	Horizon data present (1.00)		
38C	Hinckley gravelly sandy loam, 3 to 15 percent slopes	Slight	Hinckley (80%)		0.3	0.1%
46B	Woodbridge fine sandy loam, 2 to 8 percent slopes, very stony	Moderate	Woodbridge (80%)	Slope/erodibility (0.50)	6.6	1.9%
			Paxton (5%)	Slope/erodibility (0.50)		
			Montauk (3%)	Slope/erodibility (0.50)		
			Sutton (2%)	Slope/erodibility (0.50)		
			Georgia (1%)	Slope/erodibility (0.50)		
			Stockbridge (1%)	Slope/erodibility (0.50)		
47C	Woodbridge fine sandy loam, 2 to 15 percent slopes, extremely stony	Moderate	Woodbridge (80%)	Slope/erodibility (0.50)	1.5	0.4%
			Paxton (5%)	Slope/erodibility (0.50)		
			Montauk (3%)	Slope/erodibility (0.50)		
			Sutton (2%)	Slope/erodibility (0.50)		
			Stockbridge (1%)	Slope/erodibility (0.50)		
			Georgia (1%)	Slope/erodibility (0.50)		
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	Moderate	Sutton (80%)	Slope/erodibility (0.50)	7.8	2.2%
			Charlton (5%)	Slope/erodibility (0.50)		
			Paxton (3%)	Slope/erodibility (0.50)		
			Woodbridge (2%)	Slope/erodibility (0.50)		

Custom Soil Resource Report

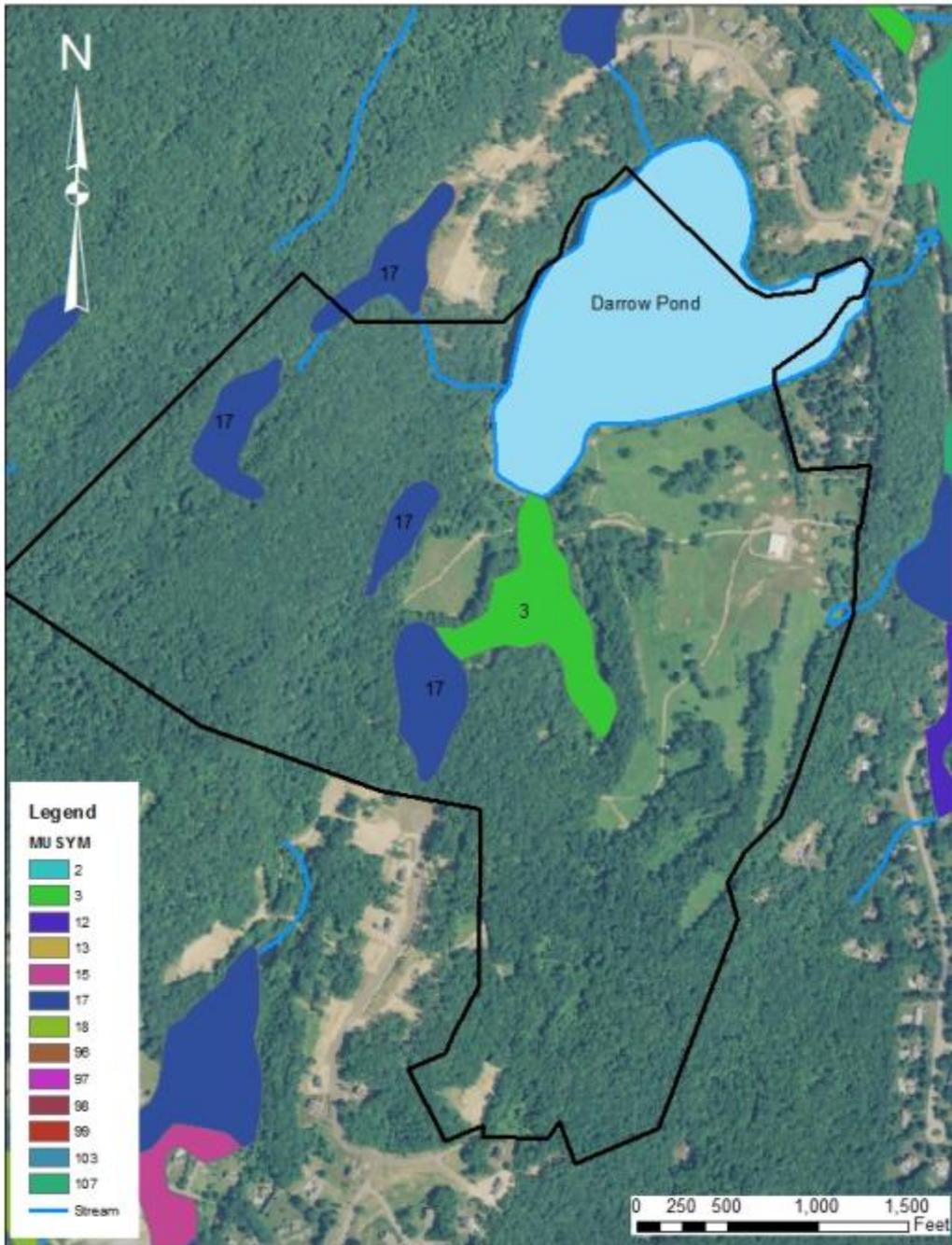
Erosion Hazard (Road, Trail)— Summary by Map Unit — State of Connecticut (CT600)						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
61B	Canton and Chariton soils, 3 to 8 percent slopes, very stony	Very Severe	Canton (45%)	Horizon data present (1.00)	1.5	0.4%
				Slope/erodibility (0.50)		
			Leicester (5%)	Horizon data present (1.00)		
			Chatfield (5%)	Horizon data present (1.00)		
			Holls (5%)	Horizon data present (1.00)		
Slope/erodibility (0.50)						
61C	Canton and Chariton soils, 8 to 15 percent slopes, very stony	Very Severe	Canton (45%)	Horizon data present (1.00)	9.2	2.6%
				Slope/erodibility (0.95)		
			Leicester (5%)	Horizon data present (1.00)		
			Chatfield (5%)	Horizon data present (1.00)		
			Holls (5%)	Horizon data present (1.00)		
Slope/erodibility (0.50)						
62D	Canton and Chariton soils, 15 to 35 percent slopes, extremely stony	Very Severe	Canton (45%)	Horizon data present (1.00)	5.6	1.6%
				Slope/erodibility (0.95)		
			Leicester (5%)	Horizon data present (1.00)		
			Chatfield (5%)	Horizon data present (1.00)		
			Holls (5%)	Horizon data present (1.00)		
Slope/erodibility (0.95)						
73C	Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky	Moderate	Charlton (45%)	Slope/erodibility (0.50)	61.6	23.4%
			Sutton (5%)	Slope/erodibility (0.50)		
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	Severe	Charlton (45%)	Slope/erodibility (0.95)	52.1	14.9%
75C	Holls-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	Very Severe	Holls (35%)	Horizon data present (1.00)	46.4	13.3%
				Slope/erodibility (0.50)		
			Chatfield (30%)	Horizon data present (1.00)		
			Slope/erodibility (0.50)			
			Leicester (5%)	Horizon data present (1.00)		
Brimfield (1%)	Horizon data present (1.00)					
Slope/erodibility (0.95)						

Custom Soil Resource Report

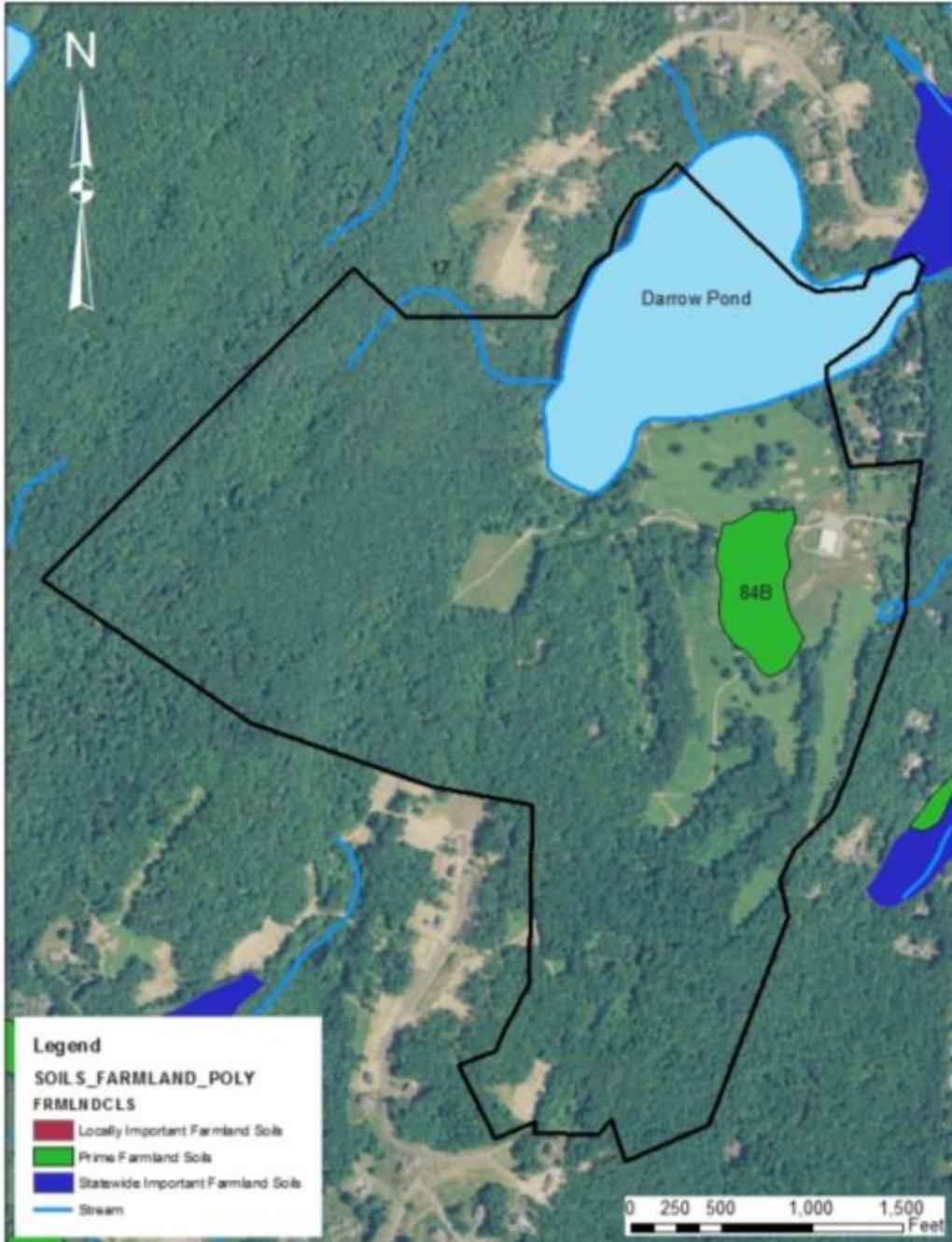
Erosion Hazard (Road, Trail)— Summary by Map Unit — State of Connecticut (CT600)						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	Very Severe	Hollis (35%)	Horizon data present (1.00)	38.0	10.9%
				Slope/erodibility (0.95)		
			Chatfield (30%)	Horizon data present (1.00)		
				Slope/erodibility (0.95)		
			Leicester (5%)	Horizon data present (1.00)		
			Brimfield (1%)	Horizon data present (1.00)		
				Slope/erodibility (0.95)		
76E	Rock outcrop-Hollis complex, 3 to 45 percent slopes	Not rated	Rock outcrop (55%)		3.6	1.1%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	Moderate	Paxton (55%)	Slope/erodibility (0.50)	7.2	2.1%
			Montauk (30%)	Slope/erodibility (0.50)		
			Woodbridge (3%)	Slope/erodibility (0.50)		
			Charlton (3%)	Slope/erodibility (0.50)		
			Stockbridge (1%)	Slope/erodibility (0.50)		
85C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony	Moderate	Paxton (55%)	Slope/erodibility (0.50)	12.4	3.6%
			Montauk (30%)	Slope/erodibility (0.50)		
			Woodbridge (4%)	Slope/erodibility (0.50)		
			Charlton (3%)	Slope/erodibility (0.50)		
			Stockbridge (1%)	Slope/erodibility (0.50)		
86C	Paxton and Montauk fine sandy loams, 3 to 15 percent slopes, extremely stony	Moderate	Paxton (55%)	Slope/erodibility (0.50)	10.2	2.9%
			Montauk (30%)	Slope/erodibility (0.50)		
			Woodbridge (4%)	Slope/erodibility (0.50)		
			Charlton (3%)	Slope/erodibility (0.50)		
			Stockbridge (1%)	Slope/erodibility (0.50)		
86D	Paxton and Montauk fine sandy loams, 15 to 35 percent slopes, extremely stony	Severe	Paxton (55%)	Slope/erodibility (0.95)	2.7	0.8%
			Montauk (30%)	Slope/erodibility (0.95)		
			Charlton (3%)	Slope/erodibility (0.95)		
			Stockbridge (1%)	Slope/erodibility (0.95)		
W	Water	Not rated	Water (100%)		38.1	10.9%
Totals for Area of Interest					349.3	100.0%

Erosion Hazard (Road, Trail)— Summary by Rating Value			
Rating	Acres in AOI	Percent of AOI	
Moderate	127.4	36.5%	
Very Severe	125.0	35.8%	
Severe	54.8	15.7%	
Slight	0.3	0.1%	
Null or Not Rated	41.8	12.0%	
Totals for Area of Interest	349.3	100.0%	

Wetland Soils on the Darrow Pond Parcel



Farmland Soils on the Darrow Pond



Fisheries Resources

Darrow Pond

Darrow Pond, an impoundment within an unnamed tributary to Latimer Brook is approximately 48.5 acres in size. Its watershed (320 acres in size) is primarily forested. The north and northwest shoreline of Darrow Pond is currently the only area of development being comprised of residential housing lots.



It appears that the dam's concrete slab infrastructure is incorporated into the toe/sideslope of Mostowy Road. The outlet is comprised of a small weir with flows dropping into a drop structure and culvert underneath the road. (The CTDEEP files contain a 1985 inspection with the owner listed as New England National LLC, and a request to the owner to perform some minor repairs at that time. The dam is designated as "B" hazard, which also corresponds to a dam having a "significant" hazard potential. A new state law makes the dam owner responsible for regular inspections and developing emergency action plans.) Ownership of the dam is unclear. The pond drains into Latimer Brook and the Niantic River eventually draining into Niantic Bay. There is an abundance of information available relative to pond bathymetry and water quality^{1, 2, 3}.

Darrow Pond contains suitable habitat necessary for the survival of warmwater pond fishes. Warmwater fisheries are resident freshwater finfish populations, which can reproduce and survive in an aquatic environment where water temperatures exceed 75°F for extended periods. Warmwater species that may be expected to inhabit the pond would be: largemouth bass, pumpkinseed, bluegill, chain pickerel, yellow perch and brown bullhead. The lake may be deep enough to provide suitable coldwater habitat for trout to survive through the summer. For trout to survive, water temperatures in deeper portions of the lake should be 70 °F or less with dissolved oxygen levels 5 mg/l or greater.

Diadromous (diadromous refers to fish that migrate back and forth between saltwater and freshwater to reproduce) fish runs in Latimer Brook that may access this unnamed tributary are currently blocked by the Darrow Pond Dam. Inland Fisheries Division (IFD) staff have documented river herring (mainly alewife, some blueback herring), American eel, sea-run brown trout, and white perch, all of which are diadromous species, just downstream of the Darrow Pond Dam in Latimer Brook. Alewife and American eel populations in particular would greatly benefit from access to Darrow Pond, which contains very viable habitats for these species.

Recommendations

1. Given the very steep topography within the property, any permanent roadway that would be constructed to gain access to the pond should be carefully planned and constructed to minimize soil erosion into the pond. A gravel base road and terminus gravel parking lot is recommended. Roadway and parking lot design needs to consider the effective management of stormwaters to reduce direct runoff into the pond. Stormwaters should only be outletted into non-wetland habitat; thus, avoiding initial and direct contact with the pond or wetlands. Install and maintain proper erosion and sedimentation controls during road and parking lot construction to reduce runoff into the pond. This includes such mitigative measures as silt fences and staked hay bales. Only small areas of soil should be exposed at one time and these areas should be reseeded as soon as possible.

2. Boating access to Darrow Pond should be limited to small car-top boats, kayaks and canoes to protect and maintain existing water quality conditions. To improve shoreline fishing access, the town should consider some minimal clearing of vegetation in a select few areas of the shoreline. Currently there is fairly dense tree and shrub growth along the edge of the pond which prevents fishing access. The town may also want to consider providing fishing access in the form of a fishing pier for handicapped anglers. The Inland Fisheries Division (IFD) can provide the town with appropriate design examples of fishing piers constructed on State property.



3. The town should consider working with the IFD and the owner(s) of the Darrow Pond Dam to help fund and construct a fishway to provide diadromous fish access to Darrow Pond.

Unfortunately, the current design and configuration of the Darrow Pond Dam, spillway and road are incompatible with the construction of a fishway or eel ladder. It is understood that Mostoway Road floods due to inadequate spillway capacity. As a consequence, the dam, spillway and roadway would have to be fully rebuilt to accommodate fish passage infrastructure and prevent flooding. However, when the time comes for rehabilitation of this area, installation of a fishway and eel pass would be relatively inexpensive and easy to accomplish. If the parties decide to perform the repairs, they can expect full technical support and assistance in design and fishway maintenance from the CT DEEP, Inland Water Resource Division and the Inland Fisheries Division.

4. The town may want to consider stocking coldwater species such as trout into the pond during early spring utilizing a "put-and-take" strategy in which most fish would be harvested from the pond before environmental conditions became unsuitable for summer survival. It is possible that some trout will survive the summer and "holdover" within the pond. This management strategy will limit the number of fish living in the pond during the summer; hence, minimizing possible fish mortalities due to warm water temperatures. An initial total stocking of adult rainbow and brown trout is recommended. Brown trout are better able to temporarily withstand warmwater pond habitats whereas rainbow trout are more easily caught by shoreline angling. Harvesting of fish can be enhanced by holding a children's fishing derby in the spring. Trout can be purchased at private commercial fish hatcheries. A list of fish hatcheries can be obtained at:

http://www.ct.gov/deep/lib/deep/fishing/general_information/hatcherylist.pdf

5. The town should consider the installation of in-pond habitat improvement structures to provide cover for fish forage species seeking shelter and predators seeking prey. These structures are relatively simple and inexpensive to construct and usually involve anchored brush piles and trees. IFD staff are willing to work with the town to determine the appropriate number, type and location of structures.

6. Darrow Pond and adjacent surrounding wetlands could serve as valuable ecological study area for the general public and local school systems and as such, the Town of East Lyme should consider the development of a formal trail system. For more specific guidance on trail design and construction contact the Connecticut Forest & Park Association (860-346-2372 or www.ctwoodlands.org) or American Trails website

<http://www.americantrails.org/resources/trailbuilding/>. The trail should follow a closed loop design. Traversing wetlands and steep slopes should be avoided whenever possible to minimize erosion and sedimentation problems; where wetlands must be crossed, a boardwalk system should be used. Interpretative signs can be installed along any newly created trail system to explain the types and values of various brook, wetland and upland habitats along with identifying local flora and fauna.

References

1. ESS Group, Inc. 2007. Nutrient Loading Analysis and Pond Management Study for Darrow Pond.
2. ESS Group, Inc. 2008. Darrow Pond Data Report
3. Connecticut Department of Energy & Environmental Protection, Bureau of Water Protection and Land Reuse, Planning and Standards Division, 79 Elm Street, Hartford, CT 06106

Wildlife Resources

Background

The town of East Lyme has requested ERT assistance in acquiring information for an environmental review/natural resource inventory for development of a long term property management plan on the town owned Darrow Pond Property. The 301-acre parcel is located on Mostoway Road in central East Lyme. It is adjacent to the town's Aquifer Protection area and is between 3,558 acres of existing open space including the Yale Sheffield Scientific School and Nehantic State Forest.

The property once contained a JC Penny testing center for small motorized equipment and previously was a farm. In the past the property was intended to be an 18-hole golf course and more recently there were development plans for a 600 unit active adult community. The town of East Lyme purchased the property to construct water tanks for the town's water supply. This is no longer the town's intent, but may be reconsidered for water tanks in the future. A conservation easement is proposed for an approximately 200-acre portion of the property. The proposed permitted activities allowed on the easement are hiking, walking, snowshoeing, biking, educational activities, agricultural activities for habitat maintenance, hunting, birding, dog walking on leash, fishing, horseback riding, ice skating, and ice fishing.

Site walks were conducted on March 15th and 25th 2013. The bulk of the parcel consists of deciduous forest with a mountain laurel understory. The remainder of the property contains an approximately 3-acre old hayfield, shrublands, wetlands, including a vernal pool and ponds, building foundation, and a parking lot.

Existing Wildlife Habitat and Recommendations

Forested Uplands-

The western half of the property consists mainly of forested uplands. There are slopes that are fairly steep, with a few ledges and outcrops present. The overstory is mostly comprised of birch and maple trees, while the understory contains mountain laurel. The shrub and herbaceous layer is sparse with a few scattered multiflora rose and barberry plants present, but there is no major infestation, and, at this time, no herbiciding control would need to be implemented.



Forested areas such as these are valuable to wildlife, providing cover, food, nesting and roosting sites. Mast or acorns produced by oaks



provides excellent forage for a wide variety of mammals and birds including white-tailed deer, gray squirrel, southern flying squirrel, eastern chipmunk, white-footed mouse, eastern wild turkey and blue jay. Trees, both living and dead, also serve as a home for a variety of insects, which, in turn, are eaten by many species of birds, including woodpeckers, warblers and nuthatches. During the site walk multiple garter snakes were present.

Due to the steep slopes throughout most of the parcel, there is limited opportunity to implement forest management practices specifically to benefit wildlife. Forestry management techniques could only be considered for the level, lower elevation portions of this site. Creating a variety of age-classes within a forested area is often beneficial to a wide variety of wildlife species by providing a mix of food resources, and cover types. The location of any wetlands should be carefully considered when planning any cutting. Forestry management should only be undertaken under the advisement of a certified professional forester.

While no invasive species control is currently planned, the existing Japanese barberry and multiflora rose should be monitored. These invasive species can become the dominant vegetation in the understory, significantly reducing plant diversity. They displace native vegetation that provides high-quality forage, thereby diminishing the value of an area to wildlife. Although very time-intensive and laborious, hand pulling as a management technique can be considered as an alternative to herbicide use. The amount of labor involved can be reduced if control techniques are implemented before the invasive species become widespread.

Shrubland-

The property contains a 20+ acre area of shrubland habitat with sections of dense shrubs intertwined with multi-flora rose and green briar. Autumn olive, cedar trees and various grasses are also dispersed throughout the area. Early successional habitats including shrublands are rapidly declining in Connecticut. This loss is due, in part, to development of these areas, as well as natural succession, where farmland abandoned years ago has now grown up into forestland. Interruptions in the natural processes, such as fire and flooding, that create early successional habitats across the landscape, have also contributed to this decline. All of these factors have combined to result in species declines for many early successional species, including those dependent upon shrubland habitat. Connecticut's Wildlife Action Plan has identified 47 wildlife species of Greatest Conservation Need (GCN) as being associated with these habitats and in need of active management. These species include the American woodcock, eastern towhee, New England cottontail, prairie warbler, brown thrasher, and field sparrow. In spring 2012 there was an active pair of American Kestrels in a tree at the edge of the shrubland on the hillside above the pond.

Although this portion of the property is dominated by invasive species, its current state represents ideal habitat for the New England cottontail; the only truly native species of rabbit in



Connecticut. Once abundant throughout most of New England and eastern New York, the New England cottontail now faces the possibility of being a federally listed threatened or endangered species. Many factors have contributed to the 85% decrease in the historic range of the New England cottontail, most notably habitat loss and the introduction of the eastern cottontail. As part of a regional initiative, state, federal, and non-governmental organizations are collaborating on habitat projects, species and habitat monitoring and assessment, targeted landowner outreach, and captive breeding

programs to keep the New England cottontail from becoming a federally-listed species. CT DEEP has identified 12 Focus Areas throughout the state where New England cottontail habitat work will be targeted; the Darrow Pond Property is located in the Lower CT River Focus Area. Presence of New England cottontail has been documented less than 2.5 miles from the property. During the site walk evidence of rabbits was found but the species of rabbit could not be determined. The CT DEEP is currently conducting live-trapping research at locations throughout the state; if the Darrow Pond property is trapped and New England cottontails are found to be present, the property should be included in the regional initiative for this species.

Old Hayfield-

The property contains an approximately 3-acre old hayfield. This area used to be used for haying but now contains various grasses, autumn olive, multiflora rose, and cedars. Early successional habitats including fields and meadows are also rapidly declining in Connecticut. Again, this decline is also caused by development and natural succession, where farmland abandoned years ago has grown up into forestland. All of these factors have combined to result in declines for many grassland species.



Many of Connecticut's grassland specialist birds, including bobolink, savannah sparrow and grasshopper sparrow are included on the state list of endangered, threatened and special concern species. When deciding what suite of species to manage for, the specific nesting acreage requirement of these species must be considered; bobolinks require at least 5 acres and eastern meadowlarks require at

least 15 acres. Unfortunately the hayfield does not meet the minimum acreage requirements for breeding however it does have value for these species as foraging habitat.

Another option is to manage the field to benefit wildlife in general, but not specifically grassland-nesting birds by allowing it to convert to meadow habitat, with a mix of grasses and flowers including purple coneflower, black-eyed susan, and New England aster. A more diverse plant community that contains grasses, weeds and flowers is more useful to a wider variety of species, including Eastern bluebird, red-tailed hawk, and smooth green snake. Brush hogging or mowing should occur every year or every couple of years, in order to keep saplings and small trees from growing up. Mowing should be conducted every few years to prevent woody vegetation from encroaching, and should be implemented after August and before April in order to allow any nesting species to complete their reproductive cycle.

Vernal Pools/Wetlands

There were two areas on the property that contained standing water during the site visits. Many species of reptiles and amphibians, such as the gray tree frog and the spotted salamander, use wetlands such as these for breeding and spend the balance of their time in the adjacent forested uplands. Other wildlife likely utilizing this habitat for food and cover are raccoons, star-nosed moles, pickerel frogs, spring peepers, northern water snakes and many bird species such as Louisiana waterthrush, wood thrush, northern water thrush, and eastern phoebe.



One of the wetlands could potentially be considered a vernal pool. Vernal pools are small, temporary bodies of standing fresh water that are typically filled in spring and dry out most years. There is no inlet or outlet, and therefore fish are not found in these pools. Vernal pools are important to the survival of many species of reptiles and amphibians that utilize wetlands for reproduction. For some species, such as the wood frog and the spotted salamander, vernal pools are critical because it is the

only type of wetland in which they will breed. A spotted salamander, as well as several egg masses were found in one wetland, while multiple wood frogs were seen in the other. These species are also dependent on the presence of healthy forested uplands surrounding the vernal pool, because, when not breeding, this is where they spend the balance of their life cycle.

When considering management activities, Calhoun and Klemens (2002) recommend that the upland areas around breeding pools up to a distance of 750 feet be considered critical upland habitat, that at least 75% of that zone be kept undisturbed and that a partially closed-canopy stand be maintained. It would be



beneficial to conduct a spring survey at the pool to document all breeding species.

Darrow Pond

A major feature of the property is the approximately 47-acre Darrow Pond. Pond habitat is important to many species including invertebrates, reptiles, amphibians, birds such as wood ducks and mallards, and semi-aquatic mammals such as mink and beaver. The riparian habitat is the area of trees, shrubs and herbaceous plants that follow the edge of streams, rivers, lakes and ponds. It too, can provide habitat for aquatic-based species including. Generally, the greater the vegetative diversity along the edges of watercourses, the greater the value for wildlife. The vegetation found in this habitat is tolerant to periodic flooding and its presence causes floodwater to slow down and allows the soil to absorb the excess water. The zone of vegetation along a stream or river is often the only remaining contiguous vegetation within a developed area, especially in a densely populated state like Connecticut. It may provide an important travel corridor for wildlife and connecting one habitat to another.

The riparian zone at Darrow Pond is dominated by alder and is free of invasive species. Management recommendations include retaining native emergent vegetation along the edge of the pond, which provides cover and foraging habitat for both invertebrates and amphibians, and retaining any



downed logs, providing basking opportunities for turtles, cover for fish and invertebrates, and resting spots for wetland birds. Many wetland-dependent species are also dependent on adjacent upland habitat, so retaining the quality of this habitat is as critical as for the wetland habitat. For example, species such as wood duck (seen on site visit) require nearby upland habitat (tree cavities) for nesting. Additionally, high-quality wetland habitat with high quality adjacent uplands meets all the requirements for many invertebrate and amphibian species, all of which spend some portion of their life cycle in upland habitat. Invertebrate species are in turn preyed upon by reptiles, amphibians, and small fish, which are then preyed upon by larger fish, birds including herons and cormorants, and mammals including mink and weasel. If quality habitat exists that allows species that function as the food web base to flourish, then those species preying upon them will also increase.

Education and Trails

The town has expressed an interest in passive recreational activities at the site, including construction of a trail that will connect to the Eight Mile River Watershed trail system that extends into East Haddam. The town may wish to include an educational component to their management of the property including placement of informational kiosks and interpretive signs at appropriate locations.

If a recreational trail is to be developed, care must be taken in order to prevent disturbance to wildlife. Please see *Attachment A* regarding recommended guidelines for trail establishment. Trails should not bisect the fields, as this would provide predators with additional easy access to more portions of the fields. Because small mammals and ground nesting birds are easily disturbed and sometimes killed by domestic dogs, it is advisable to require that dogs are kept leashed at all times. At a minimum, dogs should be leashed during the entire nesting season as well as areas that may be utilized by New England cottontails.

Summary

Large, unfragmented parcels of mature forest containing multiple habitat types, including wetlands are increasingly rare in Connecticut, as development creates small, isolated patches of habitat in the landscape. For wildlife, large blocks of habitat are always better, as they can provide a greater variety of food, more nesting and roosting sites, and areas for cover. Protecting the 301-acre Darrow Pond property would be very beneficial to wildlife as it would link 3,558 acres of existing open space. In addition to containing multiple complementary habitat types, the large 20+-acre area of shrubland has prime habitat for the candidate species New England Cottontail. If New England cottontails are found to be present, the property should be included in the regional initiative for this species. The property also offers the potential for outreach and education regarding wildlife, through the use of properly developed trails and use of interpretive signs. Given proper management and outreach/education, the stewardship of the Darrow Pond property could be beneficial to both wildlife and public users of the area.

Attachment A

General Guidelines for Protecting Wildlife Resources When Developing Trails

Some properties may lend themselves to providing a variety of recreational opportunities (e.g., hiking, hunting, fishing, nature study and photography, horseback riding, mountain biking.) Properly designed trails can provide excellent opportunities to increase public appreciation for wildlife and the ecological values of various habitats. Trails should be designed to enhance the learning and aesthetic aspects of outdoor recreation while minimizing damage to the landscape. They should be laid out to pass by or through the various cover types and other special features represented on the property while avoiding those areas prone to erosion or that contain plants or animals that may be impacted by human disturbance. Uses that are generally considered “compatible” could impact sensitive resources depending on the location, timing and frequency of their occurrence. For example, while regulated fishing is considered an accepted form of outdoor recreation, there could be impacts associated with it, such as streambank erosion at heavily used sites. The overall level of disturbance to vegetation/habitat and wildlife can be significantly reduced by establishing one or two (will depend on property size and degree of importance to natural resources) multiple-use trails rather than several single/exclusive-use trails.

Some guidelines to follow when developing a trail system include:

- Narrow, passive-use recreation trails with natural substrate that would require minimal vegetation removal, maintain forest canopy closure, prohibit the use of motorized vehicles, and require dog owners to keep their dogs under control, are preferred to reduce environmental impacts and disturbance to wildlife. Abandoned roadways (e.g., farm/logging roads) should be incorporated into the trail system whenever possible and appropriate to minimize cutting activity/vegetation removal;
- If a paved, multi-purpose trail is established, avoid the use of curbing. If it is necessary, Cape Cod style curbing (curbing at 45 degree angle) is recommended;
- Know the characteristics of the property and plan the layout so that the trail passes by or through a variety of habitat types;
- Make the trail as exciting and safe as possible and follow a closed loop design. Avoid long straight stretches of >100'; trails with curves and bends add an element of surprise and anticipation and appear more “natural”;
- Traversing wetlands and steep slopes should be avoided whenever possible to minimize erosion and sedimentation problems; where wetlands must be crossed, a boardwalk system should be used;
- The property boundaries and trail should be well marked. It is best to provide a map/informational leaflet describing the wildlife values associated with the property (e.g., value of wetlands, various habitat types/stages of succession, habitat management practices) and guidelines for responsible trail use;
- Potential impacts of trails on private property owners should be identified. Where trails bisect private property, the access should be of adequate width and the trail well-marked to help avoid potential conflicts (e.g., trespass by trail users);

- For more specific guidance on trail design and construction contact the Connecticut Forest & Park Association (860-346-2372 or www.ctwoodlands.org) or Appalachian Mountain Club (www.outdoors.org);
- For an extensive literature review about the effects of different types of recreation activities on wildlife, visit web site www.Montanatws.org – 307 page document published in 1999 entitled, “Effects of recreation on Rocky Mountain wildlife: A review for Montana.”

*Prepared by the CT DEP Wildlife Division for the Partners In Stewardship Program (June 2002)
Questions? Contact CT DEP Wildlife Division at 860-295-9523 (Eastern CT) or 860-675-8130
(Western CT)*

Landscape Ecologist Review

Habitat Notes

The Darrow Pond Property contains a variety of habitats: a grassy area, abandoned fields turned to shrublands, early-successional forest, mature forest, vernal pools and the pond. The property includes rock outcrops and areas of steep slopes.

The general lay of the land is ridges running southwest to northeast. Smith Hill and its associated ridge fall within the northwest corner of the property; and, on their southeast faces, they are steep-sloped. The Smith Hill area is the least disturbed portion of the property. East of Smith Hill and directly south of Darrow Pond, the land has been recently cleared.

The grassy opening southwest of the southwest portion of the pond shows as open on the 1934 aerial photos as does the flat area in the vicinity of the former JC Penney's building. The grassy opening is mapped as Canton and Charlton soils, 8 to 15 percent slopes, very stony (map symbol 61C) while the JC Penney's building was on Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky (73C). To the west of the JC Penney's building site is the only area of prime agricultural land. This is situated on Paxton and Montauk fine sandy loam soils, 3 to 8 percent slopes (84B). This area was part of the open area in 1934.

On the northwest end of the grassy opening, there is an area of mucky soils mapped as Timakwa and Natchaug soils (17). Within this area Spotted salamander egg masses were observed on 3/14/2013 in a small vernal pool and 2 adults were uncovered beneath a log near the pool.

Vernal pools with croaking wood frogs were observed 3/28/2013 near the northwestern boundary of the property within the westernmost of two areas mapped as Timakwa and Natchaug [17] soils. The easternmost area of Timakwa and Natchaug soils was not visited on 3/28/2013.

Consideration should be given to the use of a forestry mower to maintain portions of the currently shrubby areas as shrubby habitat. Shrubby habitat is both valuable for wildlife and is disappearing in Connecticut as abandoned farm fields and pastures naturally revert to forest (or are lost to development). Although in many places the shrubby areas are dominated by invasive shrubs, invasive shrubs are better than no shrubs at all. Mowing could be staggered so that different parts of the property were mowed in different years. This would make is a predictable annual activity and also would allow for there always being some shrubby habitat available during nesting season.

The portion of the Darrow Pond property west of the pond is connected to a very large forest tract (with multiple parcels under various ownerships) to the north and west. Such connectivity makes it more likely that unusual forest birds and mammals that require large forest tracts might be observed on the Darrow Pond property (for birds, both during migration and/or during nesting season).

The presence of Darrow pond also contributes to the habitat quality of the property. Any proposed uses of the pond should be sensitive to the needs of nesting birds and other wildlife using the pond.

Heavy deer browse was observed in places. Having a bow hunting season is one way to control deer. The logistics would have to be carefully manage

General Trail Notes

The Darrow Pond property has existing trails south of Smith Hill. In addition, a portion of the northwest boundary is Aunt Ruth's Turnpike, an old two-rod road now depicted as a trail on the USGS topographic map. Trails south of Smith Hill can be accessed from the parking lot by the JC Penney's building site (off Mostowy Rd.) and from Upper Kensington Rd. The Upper Kensington Road access presently does not include designated parking.

The existing trail system should be evaluated to determine which trails are desired (and for what uses), which trails might be abandoned, and whether there are places where the network would benefit from a new segment of connecting trail. In addition, maintenance of viewpoints may be desirable, for example, from high points in the southern part of the property.

Areas of steep slopes within the property are cause for concern over soil erosion. There are steep slopes at the foot of Smith Hill and its outlying ridge in the northwest portion of the property. Steep slopes also are present in the southeastern portion of the property. (Refer to soils map.)

Some portions of the existing trail should be re-routed where steep slopes are contributing (or have the potential to contribute) to erosion. There is one place between the JC Penney's site and the former boat house area that comes to mind. Other areas of trail erosion are found in the steep southern portion of the property (where some eroding trail segments may be better off abandoned).

Connection to Proposed Eightmile River Wild and Scenic Watershed Trail

The Darrow Pond property offers a fine opportunity to connect a trail from the Town of East Lyme into the network of mostly forested parcels that contain the proposed hiking trail in the Eightmile River Wild and Scenic Watershed. This would involve making a trail from the existing trail network south of Smith Hill up to Aunt Ruth's Turnpike.

Staying within the property, there is no way to get up to Aunt Ruth's Turnpike without going up the steep sides of Smith Hill or its associated ridge. If a connector trail is constructed, care should be taken in its overall location and switchbacks should be placed where it will not be tempting to cut them. The use of bicycles in the northwest portion of the property would not be a good idea because of risk of erosion and damage to the foot trail. Note, further, that bicycles are not allowed in the adjacent Yale trail system.

The pathway from the border of the Darrow Pond property to State Forest is via a privately-owned tract (owned by Yale University). While it seems unlikely that the Yale-owned property

will be sold or developed, it should be noted that this property is not set aside as permanent open space.

Regardless of whether a trail up to Aunt Ruth's Turnpike would be connected to the larger trail system, designing such a trail is desirable. First, it would allow people to enjoy this part of the property. Second, having a designed trail would steer people away from going down steep places that erode easily.

Gathering Places

Sometimes it is nice to have a gathering place. For example, a place where a group of people could eat lunch or a group of students could sit to learn, or to write, or to settle down after doing something more active. Such places could be named, but do not have to be developed (though in some cases, some well placed logs would be useful as shown in the picture).

<http://artchoo.com/outdoor-learning-spaces/>



Possibilities in the Darrow Pond Property include:

- (1) the flat area adjacent to the parking lot which is handicap accessible (though it can be windy,
- (2) the boat landing on the south side of Darrow Pond, which is an easy walk from the parking lot and offers a flat place and water habitat,
- (3) the flat top of Smith Hill which is a peaceful place
- (4) the cabin(?) foundation along Aunt Ruth's Trail which is a nice hiking destination.

Natural Diversity Data Base

The Natural Diversity Data Base maps and files have been reviewed for the project area. According to their records, the following State-listed species (RCSA Sec. 26-306) have been documented in the vicinity of 16 Mostowy Road in East Lyme, CT.

Needlegrass (*Aristida longespica*)

Protection Status: State Special Concern

Habitat: Dry or moist sandy/gravelly soils. Identifiable late October

USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An of the northern United States, Canada and the British Possessions*. 3 Scribner's Sons, New York. Vol. 1: 182.

<http://plants.usda.gov/core/profile?symbol=ARLOG6>



August –

illustrated flora
vols. Charles

Thread-leaf sundew (*Drosera filiformis*)

Protection Status: State Special Concern, Historic

Habitat: Moist, sandy soils and pond shores.

Blooms July – August

Bransford, W. D., and Dolphia

http://www.wildflower.org/plants/result.php?id_plant=DRFI



American chaffseed
(*Schwalbea americana*)
In habitat

Chaffseed (*Schwalbea Americana*)

Protection Status: Federally Endangered: State Special Concern, Historic

Habitat: Openings in woods, pastures, and roadsides. Blooms May –

<http://www.fws.gov/northeast/njfieldoffice/endangered/chaffseed.html#photos>

Nuttall's milkwort (*Polygala nuttallii*)

Protection Status: State Endangered

Habitat: Dry, open, sandy soils and rocky crevices. Blooms July - September



<https://gobotany.newenglandwild.org/species/polygala/nuttallii/>

The populations of Needlegrass and Nuttall's milkwort were documented within the past three years, while Thread-leaf sundew was last reported in 1986. A historic specimen of Chaffseed from 1913 is also known from the general area.

If botanical surveys are conducted on the property, please consider submitting data and/or reports to the Connecticut Natural Diversity Data Base; 79 Elm Street, 6th Floor, Hartford, CT 06106

Natural Diversity Data Base information includes all information regarding critical biologic resources available to us at the time of the request. This information is a compilation of data collected over the years by the CT Department of Energy and Environmental Protection, Bureau of Natural Resources and cooperating units of DEEP, 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 substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available. If the proposed work has not been initiated within 12 months of this review, contact the NDDB for an updated review.

Recreational Trail, Greenway Development and Linkages

Site Visit and Observations

The Town is considering non-motorized multi-use recreation (may include equestrian use) for the site. We accessed the property via a large paved area off of Mostowy Road in East Lyme (Figure 1). This paved area can provide an excellent trail-head for the property. There appears to be plenty of room to provide parking and other amenities such as composting toilets, benches, kiosks. Should the equestrian use be included, demarking spaces for horse trailers can be considered.



Figure 1

It appeared that neighbors are informally using the Kensington Drive cul-de-sac area (Figure 2) to access the property. The Town might consider establishing this as an additional trail head. This might also provide opportunities to engage the neighbors potentially as property stewards or non-enforcement patrols.



Figure 2

Existing trails are very wide and often appear to have been roads. There were many areas of observed erosion on existing trails which could use some re-surfacing or abandonment and re-location (Figure 3). Stone dust surfacing offers a low cost and low maintenance alternative. A good source of literature on alternative surfacing options can be found at American trails website:

<http://www.americantrails.org/resources/trailbuilding/index.html> . The development of a trail plan is encouraged that might consider the needs of intended users as well as some of the beautiful vistas and interesting flora, fauna and geology on site. The development of a trail plan would also allow for well thought out connections to neighboring properties and avoidance of inherent potential conflicts such as leading a mountain bike to a property that may allow only foot travel. American Trails also has good trail planning resources and model trail plans. Visit: <http://www.americantrails.org/nntp/skills/planning.html>

The property has potential to provide a trail head to the planned Niantic-Eightmile Watershed Trail. With an impressive potential collaboration between a four town trail committee (East Lyme, Lyme, Salem, East Haddam) as well as a link to the Nehantic State Forest, there is an impressive



opportunity to establish a model regional trail system. (See following article and map.)

Darrow Pond may offer an opportunity for a short perimeter water trail.

Figure 3

The Recreational Trails & Greenways Program encourages the East Lyme to:

- Improve the existing trails which might include:
 - Improvements to trail surfaces and drainage;
 - Addition of amenities such as signage (might include allowed uses, safety, directional, interpretive) benches, rest areas, etc.
 - Remove/manage invasive plants that can encroach on trail corridors.
- Develop a trail plan for the property;
- Add trail loops within the parcel;
- Add trail linkages to adjacent parcels;
- Develop a property website that would include information on parking availability and allowed uses such as hiking, mountain bikes and equestrian, etc.
- Establishment of a trail maintenance plan and associated program that could include volunteers from all user groups and neighbors.
- Consider future nomination of the trail system to link to and extend the existing Eightmile River State Designated Greenway. See <http://www.ct.gov/dep/lib/dep/greenways/greenwaysmap2012.pdf>

Proposed NEW LINEAR TRAIL Connecting Four Towns

By Rob Smith

In 2009, shortly after the town of East Haddam purchased two properties in North Plain, a unique trail concept was conceived. While reviewing maps of conserved open space in **Eightmile Wild and Scenic Watershed** and protected open space to the east and south, it became obvious that the potential existed for a several mile linear trail from RT. 82 in East Haddam, all the way into East Lyme. What made this trail concept so exciting and unusual was the fact that the entire trail could be laid out on land already protected – essentially, stringing together beautiful parcels of open space like a string of pearls.

The trail as imagined would at first head east, starting at the junction of RT.82 and Hopyard Road, passing through East Haddam's Chapal Farm Parcels (Boot Rock, Patrell and Pizzini). The trail would then wind its way through the Department of Energy and Environmental Protection's (DEEP) Eightmile Wildlife Management Area into Salem. In Salem, the trail would traverse the Salem Land Trust's (SLT) Darling Road Preserve utilizing existing trails. From here, the trail would cross Gungy Road at the Salem/Lyme town line and cross into the town of Lyme's Hartman Park. Again utilizing existing trails, the trail would then proceed in a southeasterly direction passing into Nehantic State Forest and then south utilizing forest roads all the way into East Lyme.

Obviously, cooperation and approval by several organizations would be necessary for the trail to become a reality. The **Eightmile Wild and Scenic Coordinating Committee** (ERWSCC) coordinated getting approval from

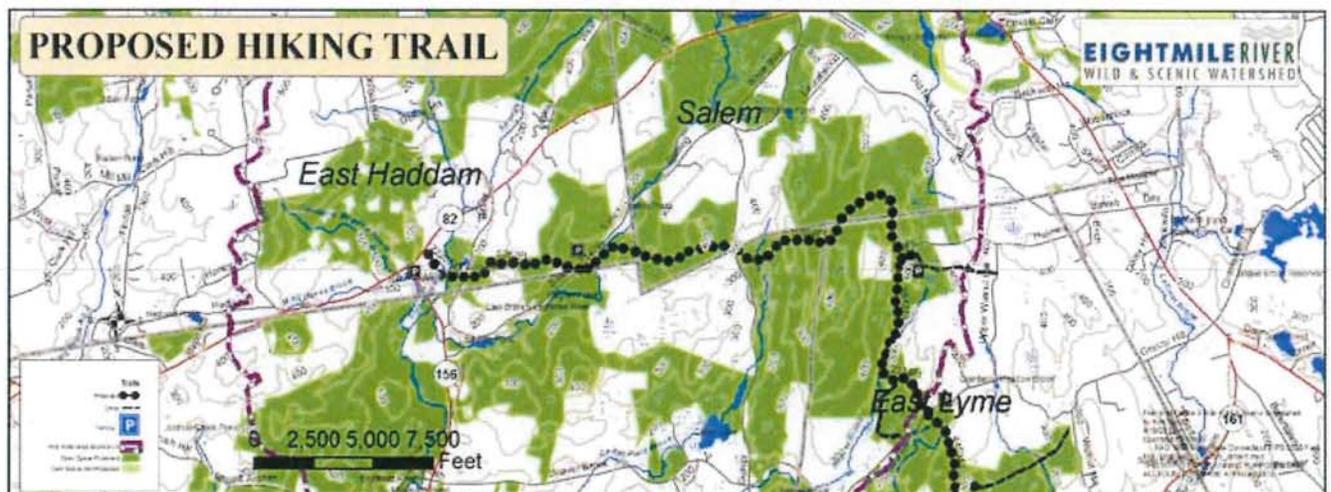
the various organizations involved in bringing this concept to fruition. East Haddam's Conservation Commission was quickly on-board and the East Haddam Land Trust enthusiastically agreed to help. The construction of a foot bridge across the Eightmile River would be needed to connect to parcels west of the Eightmile and is planned to be constructed in the future.

Volunteers and staff have worked with DEEP personnel to route an interesting path through the Eightmile Wildlife Management Area. SLT agreed to the utilization of its trails for the through trail. Lyme Land Conservation Trust and Town of Lyme agreed to the connection through Hartman Park into Nehantic State Forest (NSF). DEEP Park Manager Nasiatka and state foresters agreed to the route in NSF, again using existing trails and forest roads.

In a bit of serendipity and initially unbeknownst to ERWSCC, individuals in East Lyme had also envisioned a linear trail starting at East Lyme's newly acquired Darrow Pond open space property and heading north into Nehantic State Forest, utilizing forest roads bordering Yale Engineering School property. Negotiations with Yale are currently underway. This connection provides the ideal termination point in the south, a parking area at Darrow Pond.

Working with ERWSCC, East Lyme applied for a trails grant from DEEP to fund parking improvements, maps, trail markers and information boards to educate and assist folks utilizing the proposed linear trail.

Until the bridge is constructed across the Eightmile River, the northern terminus will be on the East Haddam Patrell Preserve on Baker Lane. It is anticipated that the east-west section of the trail will be marked and opened late this fall. Upon completion of all improvements the full trail length will be over 10.5 miles.

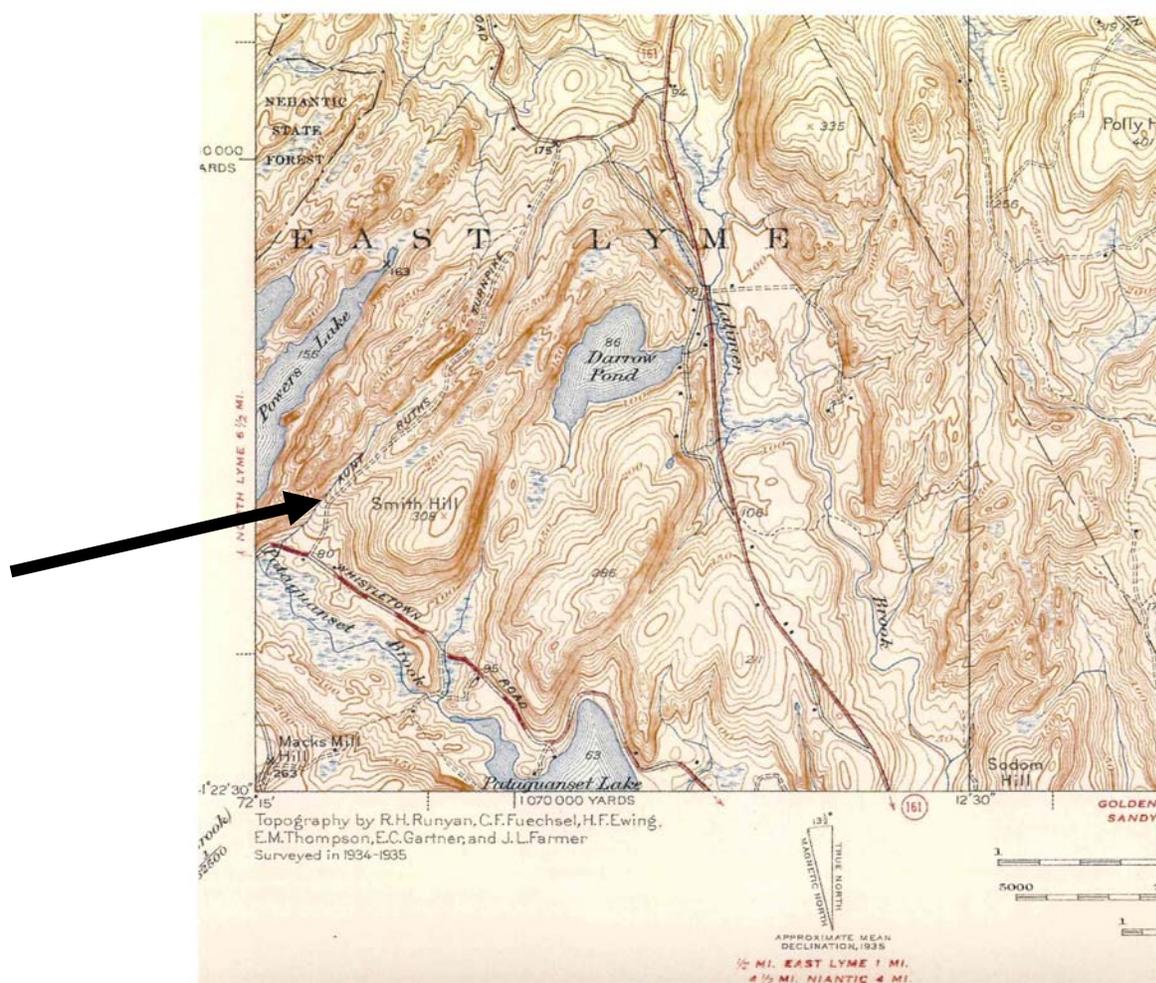


A portion of the proposed trail connecting protected lands in East Haddam, Salem, Lyme and East Lyme

Archaeological and Historic Sensitivity Review

A review of the Office of State Archaeology's (OSA) Site Files and Maps shows no known archaeological sites, however, field review has documented at least three historic resources that will be soon listed in the state archaeological site file records.

Of particular interest is Aunt Ruths Turnpike in the far western boundary of the Darrow Pond parcel.* The arrow indicates the roadway on the 1934-1935 USGS topographic map below. This early historic dirt road is bounded by stonewalls in portions of its length. It originally connected Upper Pattagansett and Walnut Hill Roads. The roadway itself has excellent integrity and is one of the few 18th century abandoned roads that can still provide evidence of its engineering and use. In addition, at least one house ruin exists along the road corridor and within the Darrow Pond parcel. This historic house ruin is consistent with the temporal period of Aunt Ruths Turnpike and represents one of a series of farmstead ruins that have great integrity. That is, the site is capable of yielding important information about the past through archaeological research. Undoubtedly, there are more historic farmstead ruins, including houses, barns, out structures, etc. associated with the roadway.



The OSA suggests that the roadbed, with its engineering features intact, and the house ruin are eligible for the State and National Registers of Historic Places.



Aunt Ruths Turnpike



*State
Archaeologist
Nick
Bellantoni
examining the
house site near
Aunt Ruths
Turnpike*

In the center portion of the project area, east of the steep rocky outcropping and south of Darrow Pond are the ruins of another historic house that appears to be contemporary with the structure along Aunt Ruths Turnpike to the west. Though a small residence, this feature also appears to have the integrity than can yield important historic information through archaeological investigation.



Historic house site (center of photo) in area south of Darrow Pond.

The southeastern portion of the project area where the water tank is located appears to have no visible historic significance.

The Office of State Archaeology strongly recommends the preservation of the historic resources in the project area. Use of the property for passive recreation, including hiking trails, fishing and non-motorized bicycles would be proper. In addition, these historic resources would provide a tremendous educational opportunity as outdoor laboratories to teach school students and the general public the town's history, and to promote the preservation of cultural resources. In this regard, the OSA would be pleased to work with the Town of East Lyme to promote an educational awareness of their cultural resources. The OSA would be pleased to offer field tours for the town's citizen's to promote these parcels and encourage the community to understand how special these lands are, and why they need to be preserved.

*For additional information about Connecticut's early turnpikes please see:

www.connecticuthistory.org/early-turnpikes-in-connecticut/

Planning Review

Passive recreation uses should be concentrated in the 206 acre conservation easement area with uses proposed by the Darrow Pond Open Space Committee for the permanent easement deemed suitable. The question of Americans with Disabilities Act (ADA) accessibility should be addressed. For instance, are any paved trails needed, and if so should they be only in the active recreation area, or could they also be extended into the passive, conservation area. Active recreation uses and any community gardening/farming activities should be located within the non conservation easement area designated on the February 2013 Darrow Pond map. Darrow Pond presents opportunities for fishing, swimming, ice skating/ice fishing, and non-motorized boating, but issues such as potential introduction of invasive species and town liability will have to be addressed. The greater area encompassing the well fields on this February map should also be reserved for passive recreation uses because of the water supply wells located there, wetland areas, and also because of any future utility uses.

The trail systems developed for this property should tie into any trail systems across the Yale property, Nehantic State Forest, and eventually connect up to the Eight Mile River Trail in Salem, creating an inter town system (see the following page from *The Eightmile River Watershed News, Fall 2013* on the proposed new linear trail). A trail system is proposed in the East Lyme Open Space Plan as depicted in Map 6B of the East Lyme Plan of Conservation and Development and could be used in the layout of trails for this property. It would be desirable to provide access to trail systems developed on the Darrow Pond property to adjacent residential areas such as the areas developed along Upper Pattagansett Road, Village Court, Village Drive, Darrows Ridge Road, Aberdeen Court, Kensington Drive/Upper Kensington Drive and Mostoway Road. This would enable persons to access directly not only the wider inter town trail system located in the conservation easement area, but would also allow walking access to active recreation, community gardening/farming, or other uses in the non conservation easement area of the property. The most logical place to develop off- street parking for those not able to walk to the property is in the area of the former JC Penny facility which could serve both active and passive recreation uses, as well as any other uses to be developed in the future.

At this point there does not appear to be any need for more intensive government facilities to locate in this area of East Lyme such as those for education, fire, or public work functions.

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: connecticutert@aol.com.

About the Eastern Connecticut RC&D Area

Resource Conservation and Development (RC&D) is a program of the United States Department of Agriculture (USDA). The Secretary of Agriculture gave the Natural Resources Conservation Service (NRCS) [formerly the Soil Conservation Service] responsibility for administering the program. RC&D is unique because it is led by local volunteer councils that help people care for and protect their natural resources in a way that improves the local economy, environment, and living standards. RC&D is a way for people to work together to plan and carry out activities that will make their area a better place in which to live.

Interest in creating the Eastern Connecticut RC&D Area first started in 1965. An application for assistance was prepared and submitted in June 1967 to the Secretary of Agriculture for planning authorization. This authorization was received in August 1968. In 1983, an application by the Eastern Connecticut RC&D's Executive Council was approved by USDA and NRCS to enlarge the area to an 86 town region.

The focus of the Eastern Connecticut RC&D Program is to help people care for and protect their natural resources, improve local economies, and sustain a high quality of life. The program derives its success from its ability to connect individuals, communities, government entities, and grassroots organizations. These connections and partnerships enable the development of shared visions and resource networks that work toward a healthy future for Connecticut. Current members on the RC&D Council represent the Working Lands Alliance, the Essex Land Trust, The Last Green Valley, the Green Valley Institute, the Thames River Basin Partnership, WINCOG, SECCCOG, NECCOG, CRERPA, NorthCentral Conservation District, Eastern Conservation District and the CT River and Estuary Conservation District.

For more information please visit their website at: www.easternrcd-ct.org.