

Draft Report 11/05/2012

Southwest Glens and Creeks Conservation Zone

Proposed by the Town of Ithaca Conservation Board



Image 1, Coy Glen - courtesy of F. Robert Wesley, Cornell University Plantations

Town of Ithaca Conservation Board

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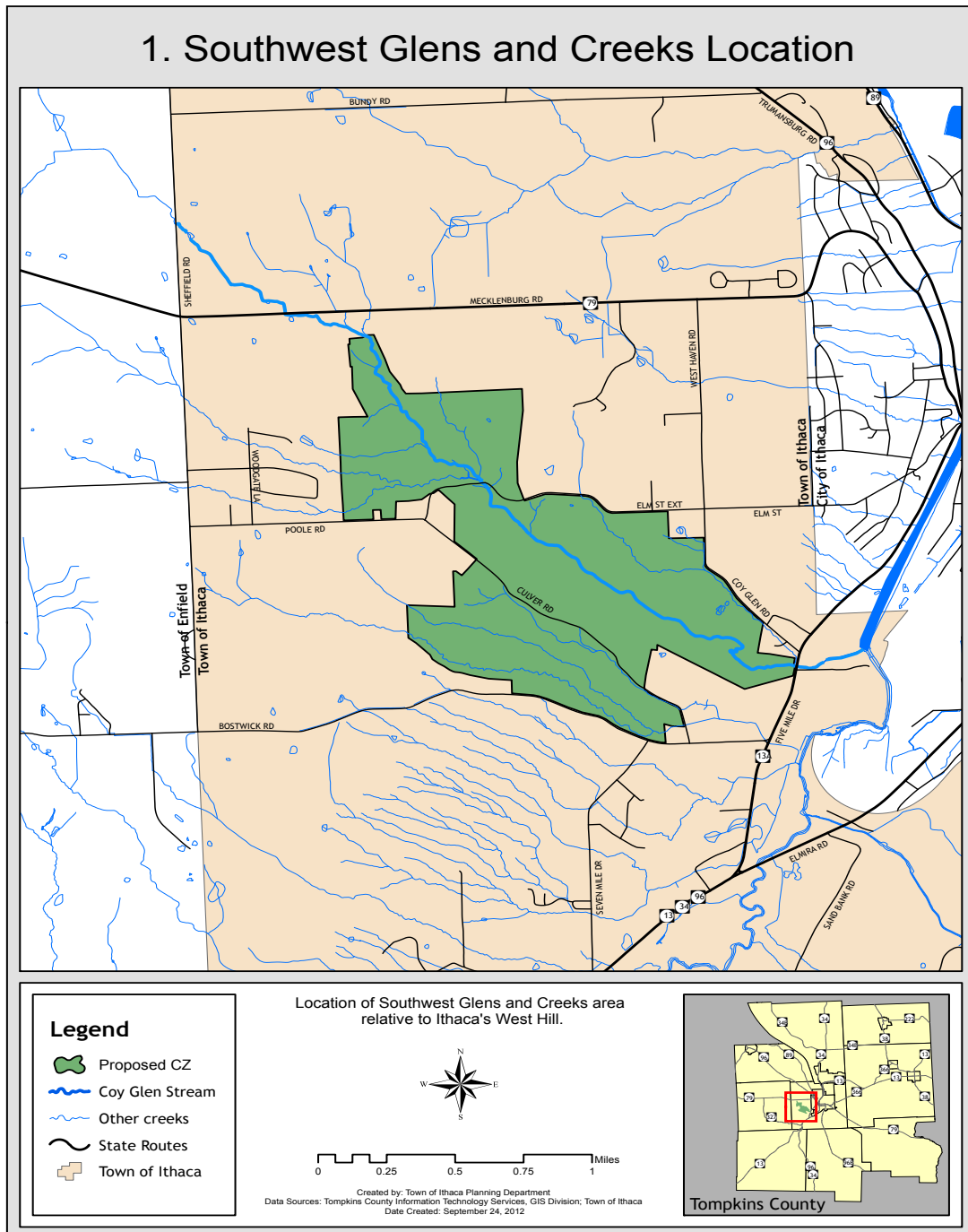
* Indicates Southwest Glens and Creeks Committee

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Introduction

A treasured yet not widely appreciated natural resource, the Southwest Glens and Creeks area is a prime candidate for Conservation Zoning. The area contains unique rare plant species, deep gorges and natural beauty. Southwest Glens and Creeks includes 700 acres located in the western section of the Town of Ithaca, south of Mecklenburg Road and north of Bostwick Road (Map 1). Within Glens and Creeks there are three Unique Natural Areas (UNAs): Coy Glen, Culver Creek Ravine and Woods and the smaller but ecologically important Coy Glen Road Hackberry Woods. The boundaries proposed in this report were set to protect the UNAs and their watersheds. While some protection measures are now currently in place and others may be warranted, this report addresses the justification for designating this entire area a Town Conservation Zone.



Map 1. Southwest Glens and Creeks Location

Area residents have known about Coy Glen's spectacular, unique nature for generations. Spence Spencer's Scenery of Ithaca and the Headwaters of Cayuga Lake (1866) described the length of Coy Glen and concluded, "If you wish to shut out of sight and hearing all suggestions of the world of business, and enjoy some of the sweetest spots of solitary nature, set your face toward Coy Glen."



Image 2, Coy Glen - courtesy of Cornell University Plantations

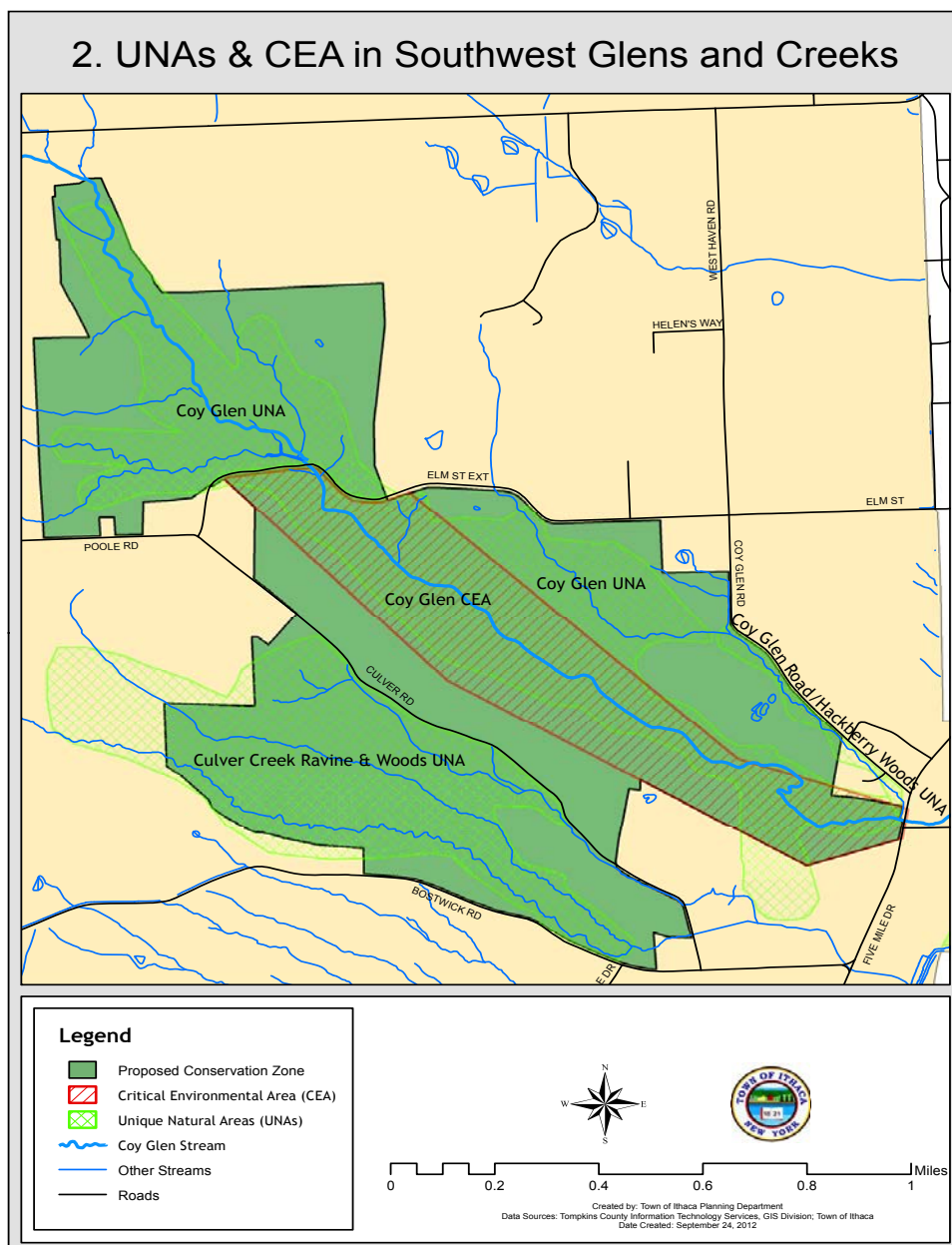
This historic photograph, taken from Spencer Road looking Northwest across Cayuga inlet towards Coy Glen in 1928, exemplifies the relative peace and quiet that could be obtained by the visit to the Glen even in the 1920s. The Southwest area of Ithaca, and the lands flanking Coy Glen to the north and south had been cleared of the forest that had greeted the original settlers and were in intensive agricultural use. Calvary Cemetery can be seen in the middle distance.

The present use of the area includes agriculture in the western boundary, scattered homes on the higher areas and a Cornell owned natural area used for educational purposes. Historically, the land use has included more intense agriculture in the northern portions, logging throughout, gravel mining in the southeastern end and some residential buildings. Although recognized as a unique local treasure for 150 years, a Cornell Landscape Horticulture study in 1976 targeted the Coy Glen area for active recreational uses including parks and trails. The perspective on the area has changed with the realization of how fragile and vulnerable this area would be to even passive recreation.

Future threats, if nothing is done, include erosion from inappropriate building, destruction of the forests through high-grade lumbering, drinking water contamination from excessive run-off, loss of habitat and unique plant and animal species.

The Conservation Board first began considering conservation zoning for Coy Glen in 1994. Why hasn't this area been Conservation Zoned sooner? Development pressure in other areas of the town intervened, and needed to be addressed more urgently because of immediate development threats. Recently, renewed attention to this long-deferred conservation initiative led to the Conservation Board's decision that, rather than limiting Conservation Zoning to Coy Glen proper, the proximity of the two other UNAs warranted their inclusion in a larger Conservation Zone as shown on Map 2. Fortunately, there have not been any proposals for extensive development; the UNAs and the designation as a Critical Environmental Area have signaled the need for protection from the more intense development that is permitted under the current zoning.

This report documents the area assets that should be protected, and presents the case for comprehensive safeguarding for the future.



Map 2. UNA & CEA of Southwest Glens and Creeks

General Description

1) Location

Coy Glen, Culver Creek and Hackberry Woods are located in the southwestern part of the Town of Ithaca. They occupy the area north of Bostwick Road and south of Coy Glen Road, Elm Street Extension, and Mecklenburg Road. Both, Coy Glen and Culver Creek are located west of Five Mile Drive, and the eastern end of Immaculate Conception Calvary Cemetery.

2) Current Zoning and What is Allowed

The zoning in this area is predominantly Low Density Residential (LDR) and Agricultural (Ag) with one parcel that is zoned Medium Density Residential (MDR). While there is no significant development planned for any of these zones, incremental development on lands adjacent to Coy Glen could be a problem. If the conservation zoning of a minimum 7 acres per lot were to be applied, rather than current zoning, Low Density Residential (30,000 square foot minimum lot size), the density of developed lots would be approximately one tenth of what is currently allowed, consequently limiting potential negative environmental impacts. Accordingly, threats to the area's fragile environmental resources would be reduced.

3) Physical Description

a) Geology

The distinctive and significant geological features of this area are granite erratics, joint-plate fracturing, fossilized ripple marks, and hanging deltas. The most observable of these are hanging deltas. These deep terraced gravel and sand deposits are transected by the Coy Glen stream, enabling us to see neat series of steps on each side of the gorge. Regrettably, many hanging deltas have been destroyed by gravel mining.

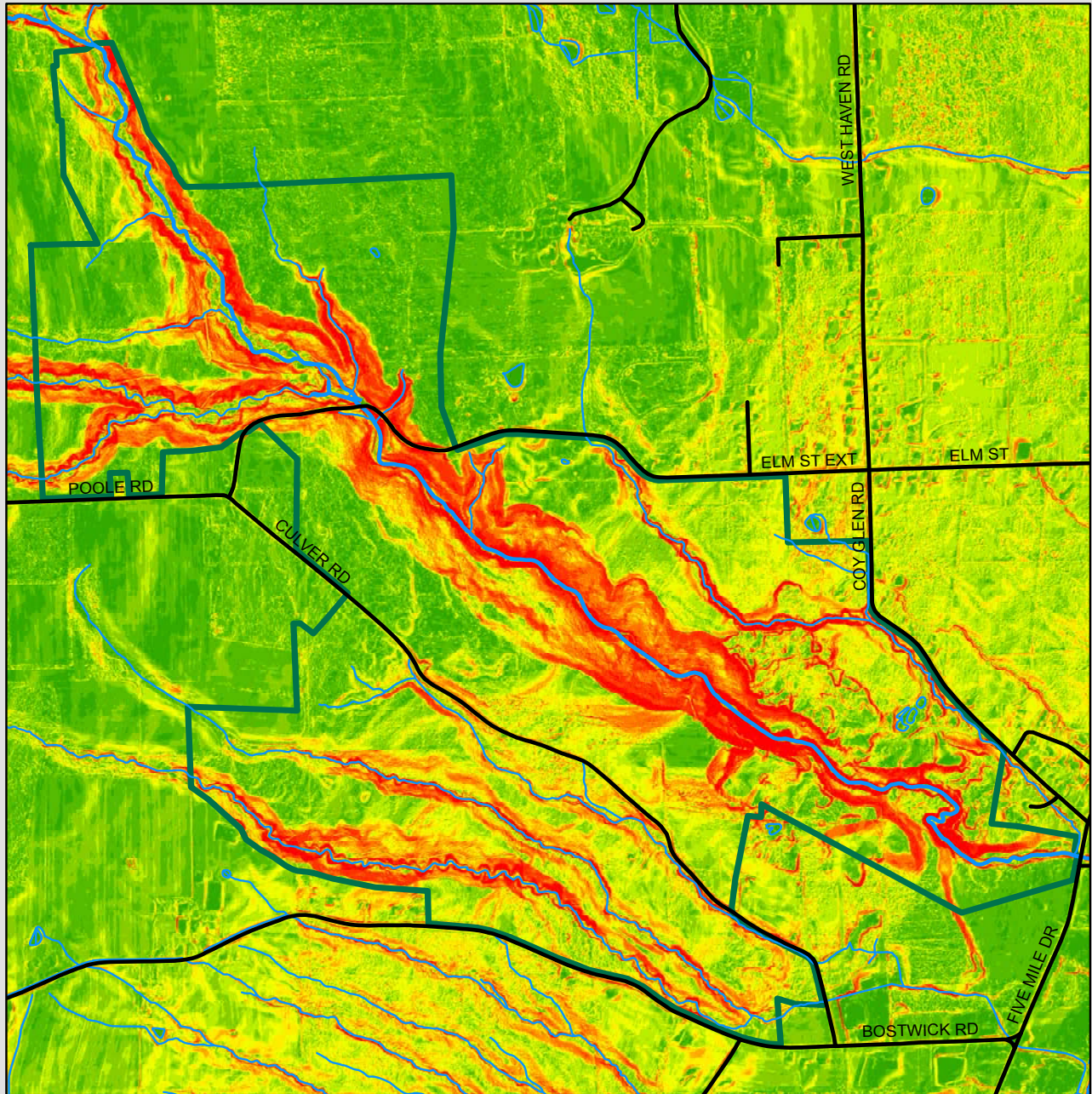
The surficial geology in the area is mainly related to glacial deposits. The area features lacustrine silt, clay and sand as well as till, which is found in the north and west section of Coy Glen in various sizes and textures. The gorge walls themselves are made of shale. Shale, lacustrine silt and clay are unstable and easily eroded.

b) Soils, Topography and Slopes

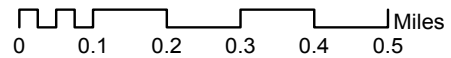
Most of the soil types found in the area are characterized as highly erodible (UNA-139), which represents severe or moderate limitation for various types of land use ranging from agricultural to residential construction. Such soil composition, combined with vertical grades exceeding 20% throughout much of the area (see map 5, Slopes in Coy Glen and Culver Creek Area), significantly increases the likelihood of soil erosion. Fortunately the steep slopes are also a good deterrent to further development. Development is possible on the shallower slopes, but the shallower slopes are also threatened by erosion.

Topographical changes in Coy Glen and Culver Creek area are extreme. There is a vertical change of 660 feet across the area. Such extreme changes in slope and altitude create microclimates that attract different species, contributing to the biodiversity of the area.

3. Slopes in Coy Glen and Culver Creeks Area



Slope Grade (Percent)



Created by: Town of Ithaca Planning Department
Data Sources: Tompkins County Information Technology Services, GIS Division; Town of Ithaca
Date Created: September 24, 2012

Map 3. Slopes in Coy Glen and Culver Creek Area

Coy Glen Creek

The headwaters of Coy Glen Creek originate in several small streams, at least one of which begins in the Town of Enfield, while the others are in agricultural fields and hedgerows north of Mecklenburg Road. The land surrounding the headwater area is relatively flat, and the topography becomes steeper and the channels more defined as the watershed area increases. South of Mecklenburg Road and east of the Drew Road Subdivision, the stream corridor is characteristic of a gorge. The watershed area drains agricultural fields, wooded areas, and residential development. Downstream of the Coy Glen gorge, the gradient is relatively flat, and Coy Glen Creek flows under Five Mile Drive and into Cayuga Inlet. The Inlet is one of the largest tributaries to the south end of Cayuga Lake.

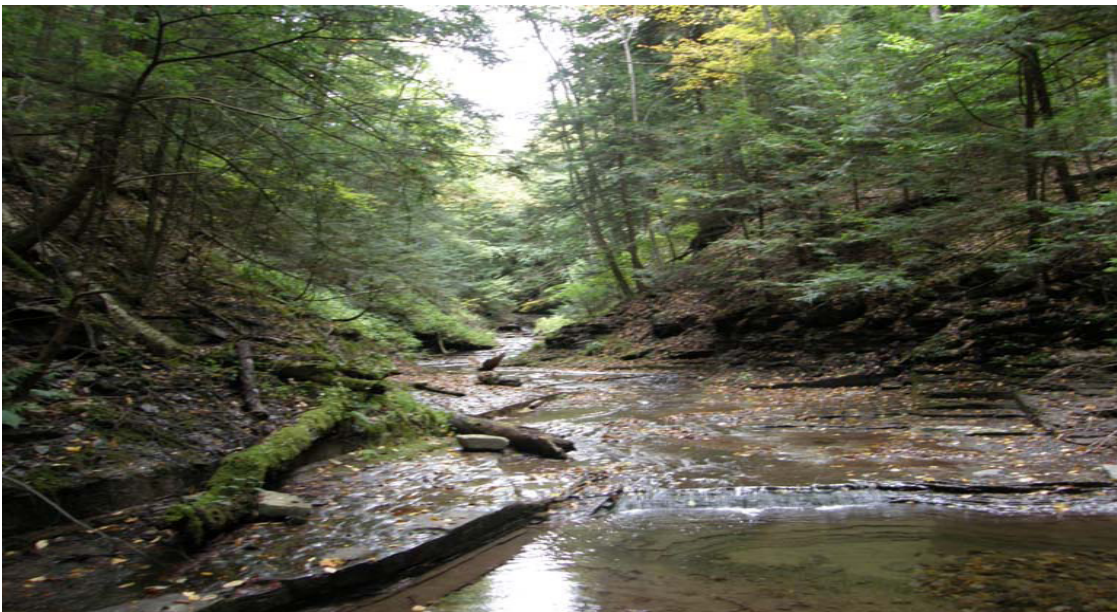


Image 3, Coy Glen Creek - Courtesy of Cornell University Plantations

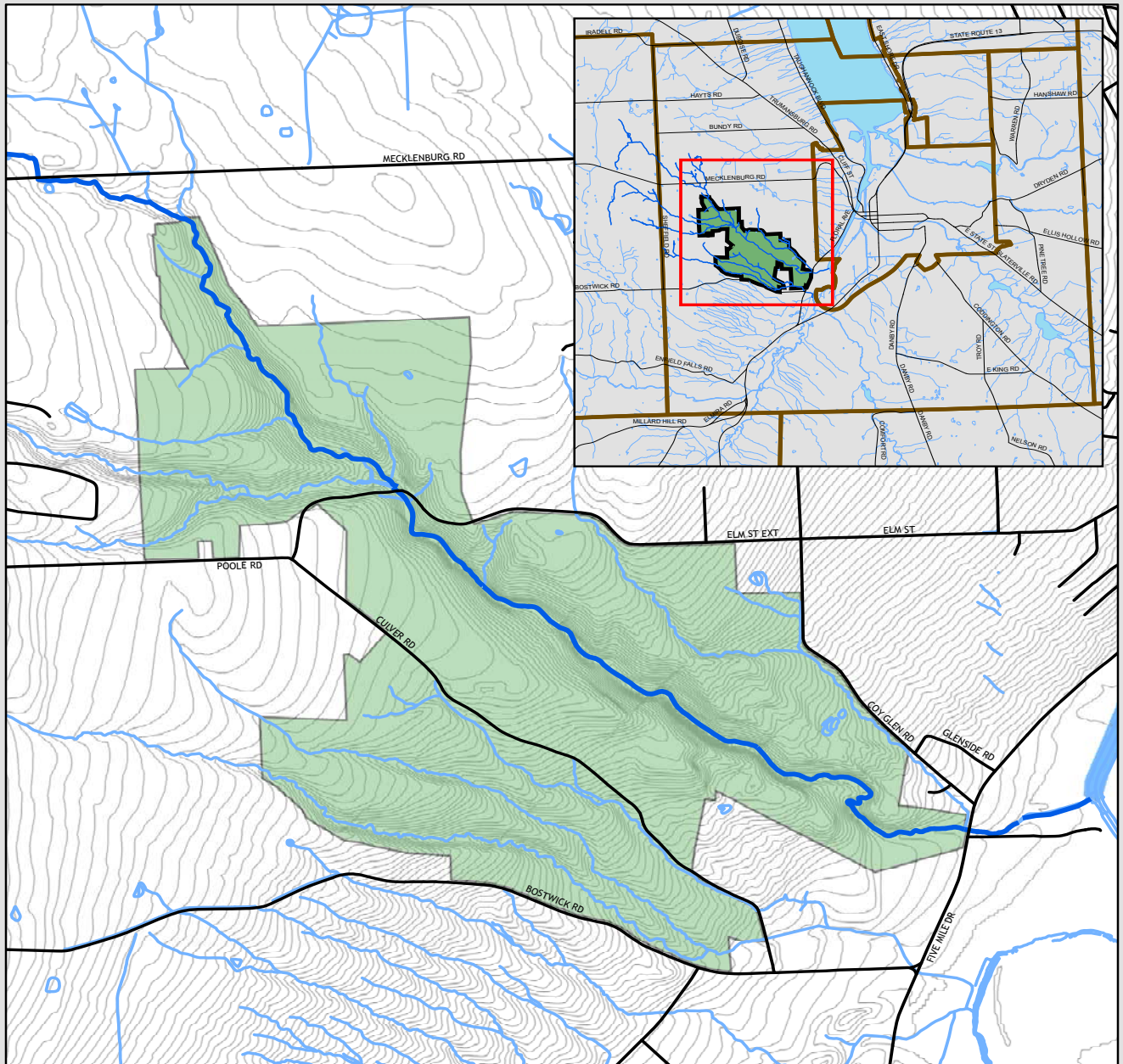
Culver Creek Area

In the area between Culver Road and Bostwick Road, three small streams drain the watershed – a predominantly forested area with agriculture in the headwaters. The two southern streams converge to the west of the Culver – Bostwick Road intersection, which then converge with the northern stream (Culver Creek) to the West of the Tompkins County Highway facility (north of the ICSD bus parking). In this section, the streams are altered by human activities, including the downstream section that is culverted under Bostwick Road and Five Mile Drive before emptying into the Cayuga Inlet. The management of the entire length of these streams is important to ensure the integrity of the water quality.






Coy Glen Road Hackberry Woods

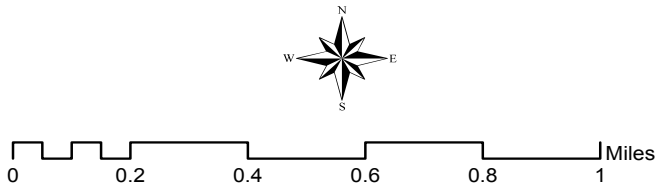
This small UNA, contiguous to the Coy GlenUNA, has hydrological characteristics similar to those of its neighboring UNA.

4. Hydrology of Southwest Glens and Creeks



Legend

-  Proposed Conservation Zone
-  Topographic lines
-  Coy Glen Stream
-  Other streams
-  Roads



Created by: Town of Ithaca Planning Department
 Data Sources: Tompkins County Information Technology Services, GIS Division; Town of Ithaca
 Date Created: September 24, 2012

Map 4, Hydrology of Southwest Glens and Creeks

4) Ecological Communities

a) Plant Life

These glens and creeks are widely recognized as possessing impressive botanical diversity. Much of the area is forested upland, approximately 565 out of the 699 acres. Shady hemlocks and yellow birches are found on the slopes of the gorge, while beech and sugar maple trees perch atop the rim of the Glen. On the sunny southern facing slopes, white oak, hickory and the locally scarce northern red oak are common (Foster, 1991). Locally scarce Hackberry trees (*Celtis occidentalis*) are found in sizeable numbers in the warm, sheltered gravel deposits at the base of the glen, as well as in the Culver Creek area. The area is also home to stands of black locust, cherry, cottonwood, ash, and various evergreens.

While some of the old-growth forest is over 150 years old (UNA - 139), many of the old trees are located in areas that were harvested for timber in the past. Some of the trees on the steepest hillsides, however, are likely old growth, because the extreme slopes would have precluded logging.

Due to the topographical variety, a large variety of plants and flowers exists in the area, including trillium, rue anemone, may apple, and Virginia bluebell.

A wide variety of lichens, liverworts, mosses, ferns, horsetails and club mosses exist on the steep slopes of the glens. Over the years, several species have become extinct within the proposed conservation area, due to mining and other development.

b) Animal Life

Three rare butterfly species listed as rare or scarce in New York (the tawny Emperor, Hackberry Butterfly, and Snout) have been found in the Conservation area. These species are totally dependent on the hackberry trees in the area.

The proposed conservation district is home to several species of salamanders. One of these, the Two-lined salamander, is listed as scarce by the State of New York. In addition, a large and active den of eastern coyotes is found in the former gravel mine area, south of Coy Glen. Coyotes are an important part of an ecosystem because predators such as the coyote help keep in check overpopulation of species, such as deer, raccoon, mice, and woodchuck.

5) Description of the Conservation Zone Boundary

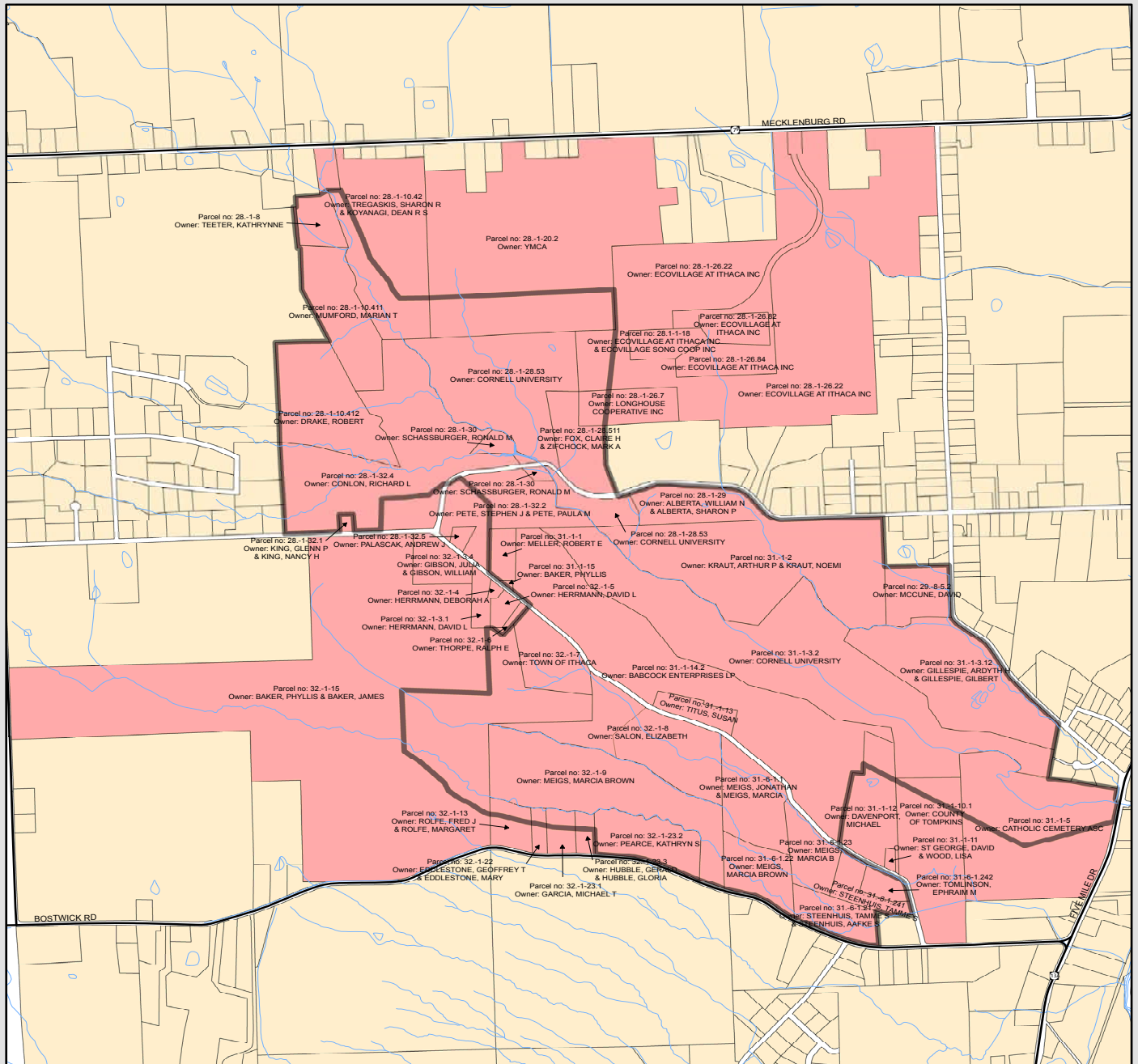
The Conservation Board (CB) has been considering the Southwest Glens and Creeks area for conservation zoning since 1994. Previous board members visited different areas along the proposed boundary and made recommendations and adjustments based on their on-the-ground experience. In September 2009 the CB along with Town Board members and the Cornell Natural Areas Director again toured the area by driving around the approximate boundary and walking into Coy Glen at several locations. This, the current proposed Conservation Zone including property recommended for inclusion by EcoVillage residents, was approved by the Conservation Board on August 2, 2012.

The headwaters of the Coy Glen Creek watershed begin north and west of Mecklenburg and Sheffield Roads, and in the Town of Enfield, west of the Town of Ithaca. While one goal would be to include all of that land area in a conservation zone, the Town does not have any authority in Enfield. Moreover the area north of Mecklenburg Road includes smaller residential lots and larger agricultural parcels that are incorporated into a Town of Ithaca Agricultural Zone, and are therefore protected from more intense land development.





Beginning at the northwestern corner of the proposed Conservation Zone boundary Tax Parcel Number 28.-1-8, and moving clockwise, the northern boundary is an east-west line across the same parcel. It then runs parallel to the eastern boundary of the Coy Glen UNA through parcel 28.-1-10.42. The line runs eastward through parcel 28.-1-20.2 to the parcel's eastern boundary, before curving southward through parcels 28.1-26.7 and 28.1.26.511 to meet Elm Street Extension. The boundary then heads east along Elm Street Extension to Coy Glen Road. Several parcels at the corner of Elm Street Extension and Coy Glen Road are excluded because the lots are less than five acres. Following Coy Glen Road south and southeast, the boundary encompasses the majority of the Coy Glen Road Hackberry Woods UNA, excluding the Hackberry Lane five-lot subdivision, where the largest lot is less than two acres. The border reaches Five Mile Drive and continues southward, before cutting west through the Immaculate Conception Calvary Cemetery. The entire cemetery property is not proposed to be within the conservation zone. The portions of the property that are sloped and buffer Coy Glen Creek are of protective concern more than the flat areas with lawn and grave sites. The proposed boundary on this parcel follows the Critical Environmental Area boundary line.

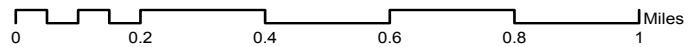
As the proposed boundary line turns to the west, it runs behind the Ithaca City School District bus garage. Further west it follows the CEA boundary through the Tompkins County Department of Public Works Facility property and parcel 31.-1-12 following the western property line south to Culver Road. Turning west along Culver Road, the boundary continues southward to the intersection of Bostwick Road, before heading west (it excludes parcel 31.-6-1.25, which is an approximately 3.4 acre parcel, primarily in cultivation). This area encompasses nearly all of the Culver Creek Ravine and Woods UNA. It heads north along the western boundary of parcel 32.-1-23.2 before bisecting several smaller parcels (2-5.5 acres). The residences on these parcels are close to the road, and the boundary line of the conservation zone allows for a buffer of approximately 200 feet to the stream. The line then turns to the north, excluding some agricultural fields and smaller lots to the west (near the intersection of Culver Road, Poole Road, and Elm Street Extension). On the north side of Culver Road, the boundary excludes the developed areas of parcel 28.-1-32.2, but includes the section that is within the CEA. At the corner of Elm Street Extension and Poole Road, the boundary excludes the developed areas of parcel 28.-1-32.4 (buildings and lawn/landscaped area). Heading west along Poole Road, excluding the +/- 0.7 acre 28.-1-32.1, the boundary turns north before the Drew Road Subdivision. The line reconnects at the north edge after running between an agricultural field to the west and forested riparian buffer to the east.

5. Property Owners in Southwest Glens and Creeks



Legend

-  Proposed Conservation Zone
-  Tax Parcels
-  All Affected Parcels
-  Roads



Created by: Town of Ithaca Planning Department
 Data Sources: Tompkins County Information Technology Services, GIS Division; Town of Ithaca
 Date Created: October 19, 2012

Summary

This report presents the rationale and boundary for the Southwest Creeks and Glens Area conservation zoning in and around Coy Glen and Culver Creek. While there are other mechanisms to protect land, those have been listed in other documents and are not the focus here.

Based on the recommendation of the 1993 Comprehensive Plan and other documents that are referenced above, the Conservation Board recommends that Conservation Zoning be established to include the area that encompasses Hackberry Woods, Coy Glen, and Culver Creek UNAs. Environmental and aesthetic resources make this area ideal for conservation. Future development is a concern as nearby areas of West Hill are growing, thus this sensitive area could be threatened by development. The steep slopes and erodible soils could result in erosion and water quality concerns with unconstrained development.



Image 4, Dress Woods - Courtesy of Town of Ithaca Planning Department

List of Maps:

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Map 2. UNAs & CEA in Southwest Glens and Creeks

Map 3, Slopes in Coy Glen and Culver Creek Area.

Map 4, Hydrology of Southwest Glens and Creeks.

Map 5. Property Owners in Southwest Glens and Creeks.

Map 6, Zoning in Southwest Glens and Creeks.

Map 7, Geology of Southwest Glens and Creeks.

Map 8, Soils in Southwest Glens and Creeks.

Map 9, Highly Erodible Soils in Southwest Glens and Creeks

Map 10, Topography of Southwest Glens and Creeks Slopes in Coy Glen and Culver Creek

Images:

Image 1, title page. Coy Glen. Robert F. Wesley, Cornell University Plantations

Image 2, page 3. Coy Glen (1928). Robert F. Wesley, Cornell University Plantations

Image 3, page 6. Culver Creek, Town of Ithaca Planning Department.

Image 4, Page 11. Dress Woods, Town of Ithaca Planning Department.

Works Cited:

Unique Natural Areas of Tompkins County (originally 1976, updated 1990, revised 2000)

UNA-138 Coy Glen Hackberry Woods (pages 383-384)

UNA-139 Coy Glen (pages 385-389)

UNA-140 Culver Creek Ravine and Woods (pages 389-391)

“Special Project-Coy Glen-A unique Area of Tompkins County” (Dennis Charles Colliton, May 1976)

“Coy Glen- Preservation Area Report” (Town of Ithaca, 1975)

Table of Property Owners in Southwest Glens and Creeks (Tompkins County Department of Assessment, 2011)

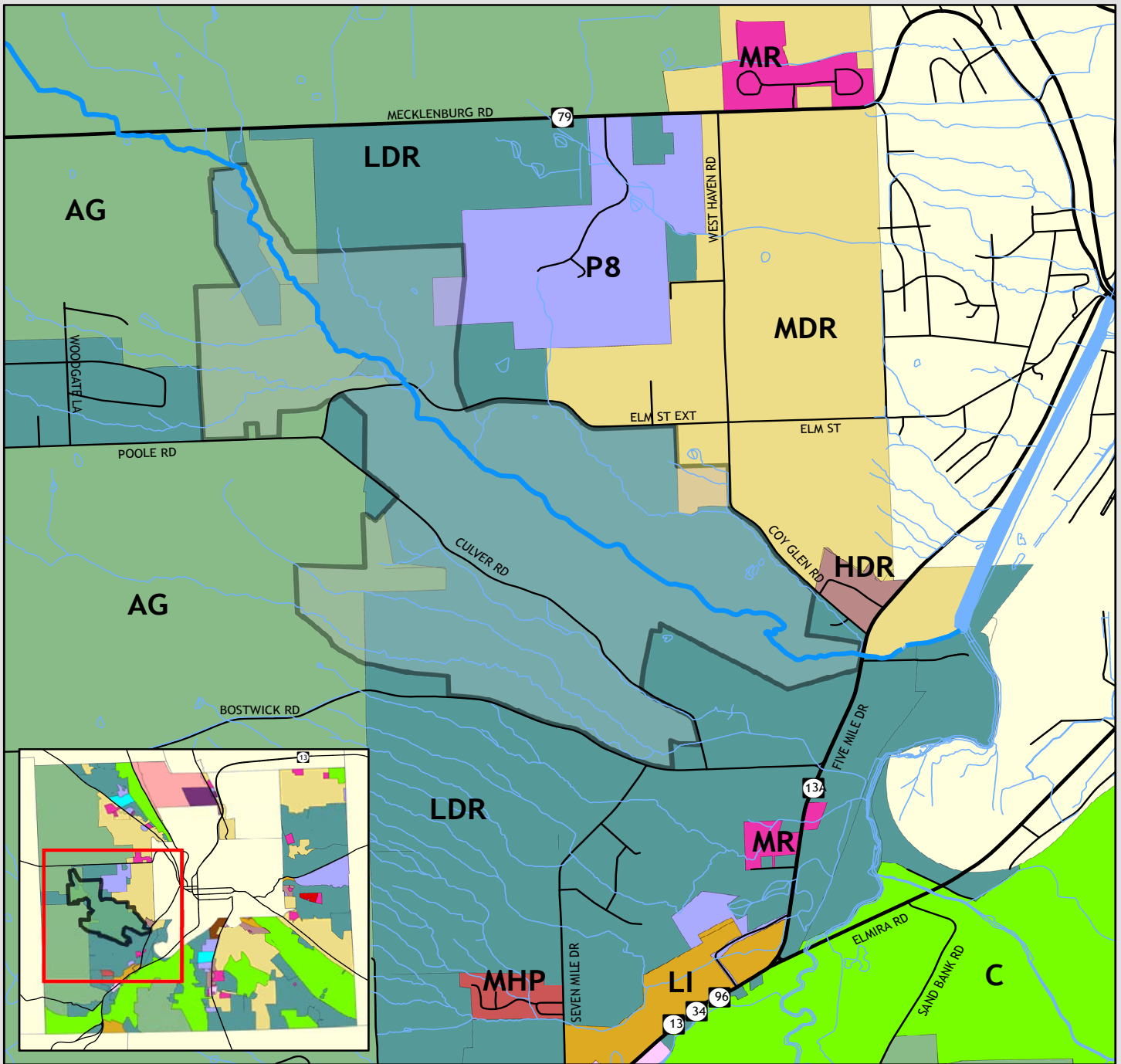
Southwest Glens and Creeks

Appendix

Southwest Glens and Creeks Property Owners

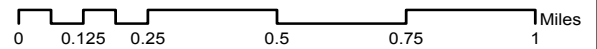
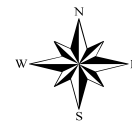
Tax Parcel	Street #	Street	Owner	Total Acres	Acres in CZ	% in CZ
28.-1-10.411		Mecklenburg Rd.	Marian T. Mumford	19.42	19.10	98.35%
28.-1-10.412		Mecklenburg Rd.	Robert Drake	25.83	25.78	99.81%
28.-1-10.42		Mecklenburg Rd.	Sharon R. Tregaskis & Dean R. S. Koyangi	39.45	7.23	18.34%
28.-1-20.2		Mecklenburg Rd.	YMCA	109.69	20.43	18.63%
28.-1-26.22		Mecklenburg Rd.	Ecovillage at Ithaca Inc.	149.54	5.82	3.89%
28.-1-26.7		Elm St Ext.	Longhouse Cooperative Inc.	9.69	2.75	28.38%
28.-1-28.511	786	Elm St Ext.	Claire H. Fox & Mark A. Zifchock	11.61	11.61	100.00%
28.-1-28.53		Elm St. Ext.	Cornell University	5.94	5.94	100.02%
28.-1-28.53		Elm St. Ext.	Cornell University	37.59	37.51	99.79%
28.-1-29	751	Elm St. Ext.	William N. & Sharon P. Alberta	12.13	11.43	94.23%
28.-1-30	798	Elm St. Ext.	Ronald M. Schassburger	3.31	3.31	100.01%
28.-1-32.2		Elm St. Ext.	Stephen J. & Paula M. Pete	20.83	12.50	60.01%
28.-1-32.4	860	Elm St. Ext.	Richard L. Conlon	57.32	51.68	90.16%
28.-1-8	1413	Mecklenburg Rd.	Kathrynne Teeter	8.22	5.97	72.63%
29.-8-5.2	260	Coy Glen Rd.	David McCune	9.82	9.63	98.07%
31.-1-1	300	Culver Rd.	Robert E. Meller	3.69	3.67	99.54%
31.-1-13	250	Culver Rd.	Susan Titus	4.60	4.60	100.01%
31.-1-14.2	230	Culver Rd.	Babcock Enterprises LP	72.13	72.08	99.93%
31.-1-15		Culver Rd.	Phyllis Baker	0.20	0.20	98.84%
31.-1-2	635	Elm St.	Arthur P. & Noemi Kraut	59.10	58.52	99.02%
31.-1-3.12	144	Coy Glen Rd.	Ardyth H. & Gilbert Gillespie	37.04	37.03	99.97%
31.-1-3.2		Coy Glen Rd.	Cornell University	83.75	83.54	99.75%
31.-1-5	638	Five Mile Dr.	Immaculate Conception Church	51.62	50.99	98.78%
31.-6-1.1	235	Culver Rd.	Jonathan & Marcia Meigs	14.86	14.86	100.00%
31.-6-1.21	224	Bostwick Rd.	Tamme S. & Aafke S. Steenhuis	8.54	8.40	98.36%
31.-6-1.22		Bostwick Rd.	Marcia Brown Meigs	10.42	10.41	99.90%
31.-6-1.23		Culver Rd.	Marcia Brown Meigs	8.49	8.48	99.94%
31.-6-1.241		Culver Rd.	Tamme S. Steenhuis	5.5	5.5	100.00%
31.-6-1.242	175	Culver Rd.	Ephraim M. Tomlinson	3.16	3.16	100.00%
32.-1-13	358	Bostwick Rd.	Fred J. & Margaret Rolfe	3.54	1.18	33.29%
32.-1-15	380	Bostwick Rd.	Phyllis & James Baker	235.82	34.87	14.79%
32.-1-22	354	Bostwick Rd.	Geoffrey T. & Mary Eddlestone	1.90	0.68	35.89%
32.-1-23.1	352	Bostwick Rd.	Michael T. Garcia	3.45	1.38	40.00%
32.-1-23.2	334	Bostwick Rd.	Kathryn S. Pearce	13.05	12.85	98.47%
32.-1-23.3	350	Bostwick Rd.	Gerald & Gloria Hubble	2.17	0.87	39.87%
32.-1-7	283	Culver Rd.	Town of Ithaca	13.44	13.44	100.00%
32.-1-8	251	Culver Rd.	Elizabeth Salon	28.51	28.51	100.00%
32.-1-9	320	Bostwick Rd.	Marcia Brown Meigs	39.63	39.62	99.97%

6. Zoning in Southwest Glens and Creeks



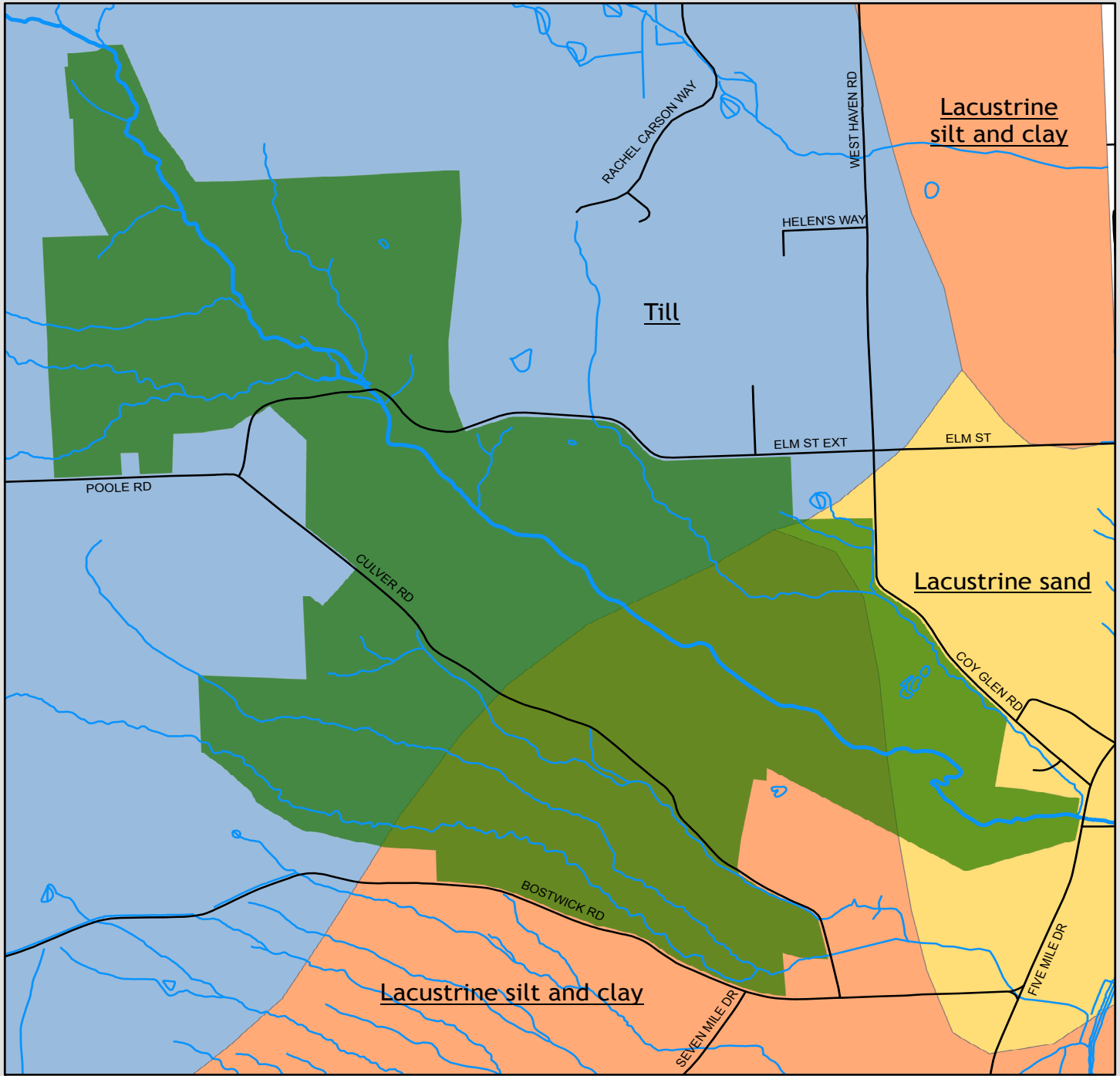
Legend

- | | | |
|----------------------------------|------------------------------|----------------------|
| Lakefront Residential (LR) | Neighborhood Commercial (NC) | Proposed CZ Boundary |
| Low Density Residential (LDR) | Community Commercial (CC) | Coy Glen Stream |
| Medium Density Residential (MDR) | Lakefront Commercial (LC) | Other streams |
| High Density Residential (HDR) | Agricultural (AG) | |
| Mobile Home Park (MHP) | Conservation (C) | |
| Multiple Residence (MR) | Planned Development Zone (P) | |
| Vehicle Fuel and Repair (VFR) | Light Industrial (LI) | |
| Office Park Commercial (OPC) | Industrial (I) | |



Created by: Town of Ithaca Planning Department
 Data Sources: Tompkins County Information Technology Services,
 GIS Division; Town of Ithaca
 Date Created: September 24, 2012

7. Geology of Southwest Glens and Creeks

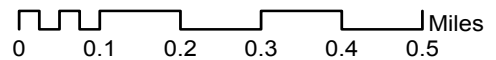


Legend

Surficial Geology

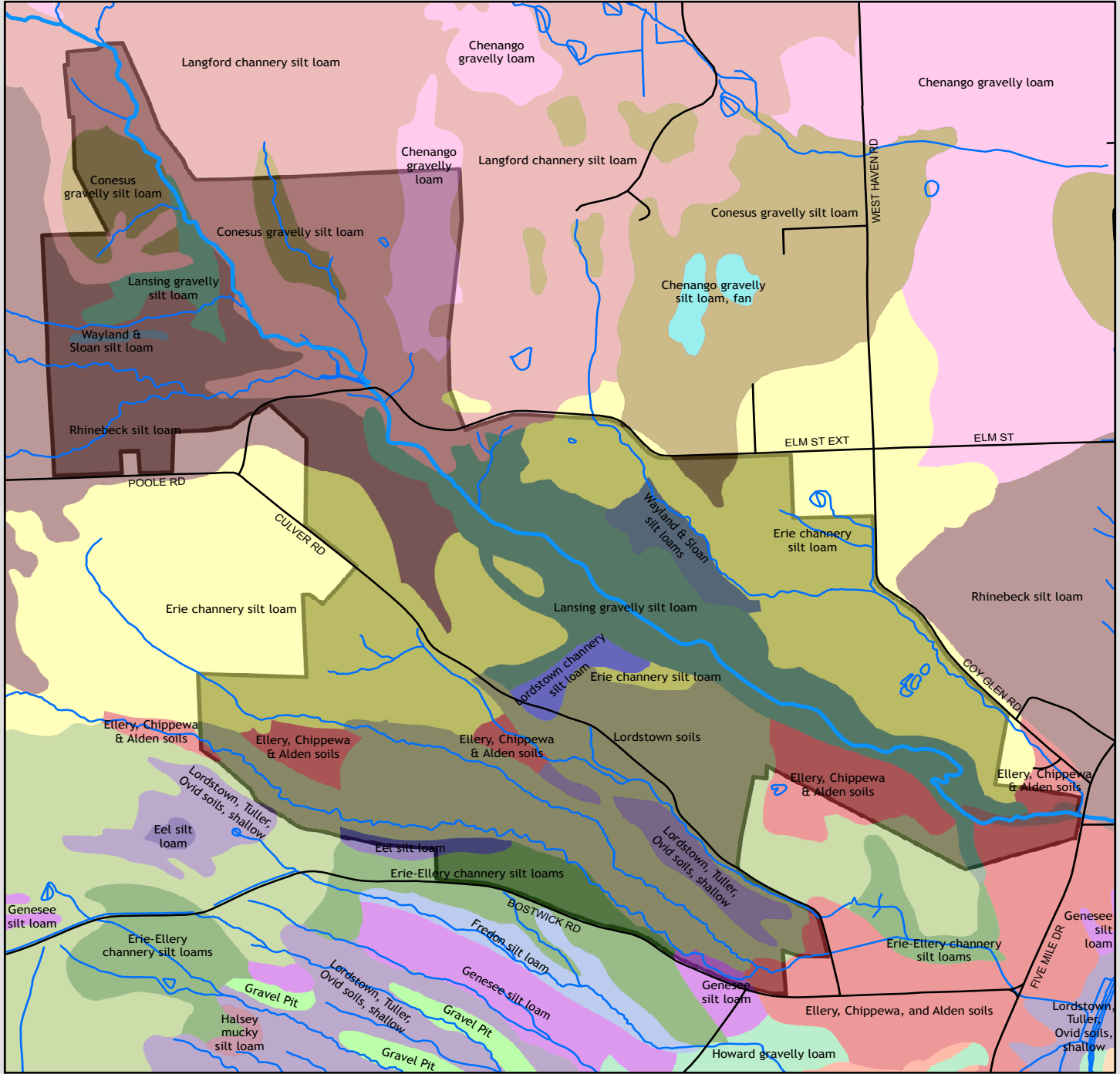
- Lacustrine sand
- Lacustrine silt & clay
- Till

- Coy Glen Stream
- Other Streams
- Roads
- Proposed Conservation Zone



Created by: Town of Ithaca Planning Department
 Data Sources: Tompkins County Information Technology Services, GIS Division; Town of Ithaca
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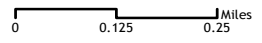
8. Soils in Southwest Glens and Creeks



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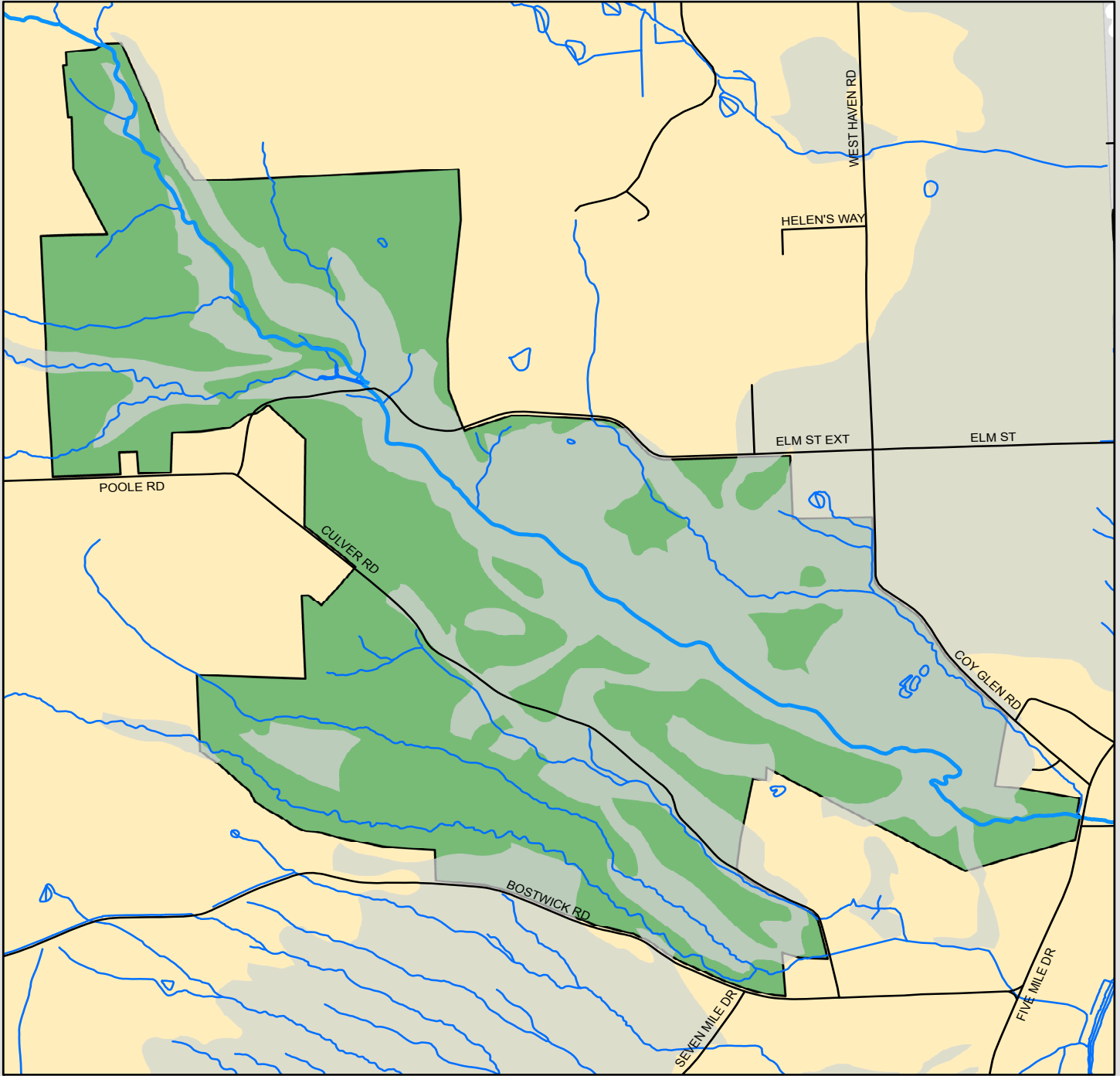
Soils

- | | | |
|-----------------------------------|-----------------------------|--|
| Chenango gravelly loam | Fredon silt loam | Lordstown soils |
| Chenango gravelly silt loam, fan | Genesee silt loam | Lordstown, Tuller, Ovid soils, shallow |
| Conesus gravelly silt loam | Gravel Pit | Lyons silt loam |
| Eel silt loam | Halsey mucky silt loam | Rhinebeck silt loam |
| Ellery, Chippewa, and Alden soils | Howard gravelly loam | Rock outcrop |
| Erie channery silt loam | Langford channery silt loam | Wayland and Sloan silt loams |
| Erie-Ellery channery silt loams | Lansing gravelly silt loam | Proposed Conservation Zone |
| Lordstown channery silt loam | | |








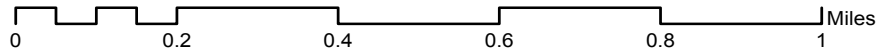
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9. Erodible Soils in Southwest Glens and Creeks



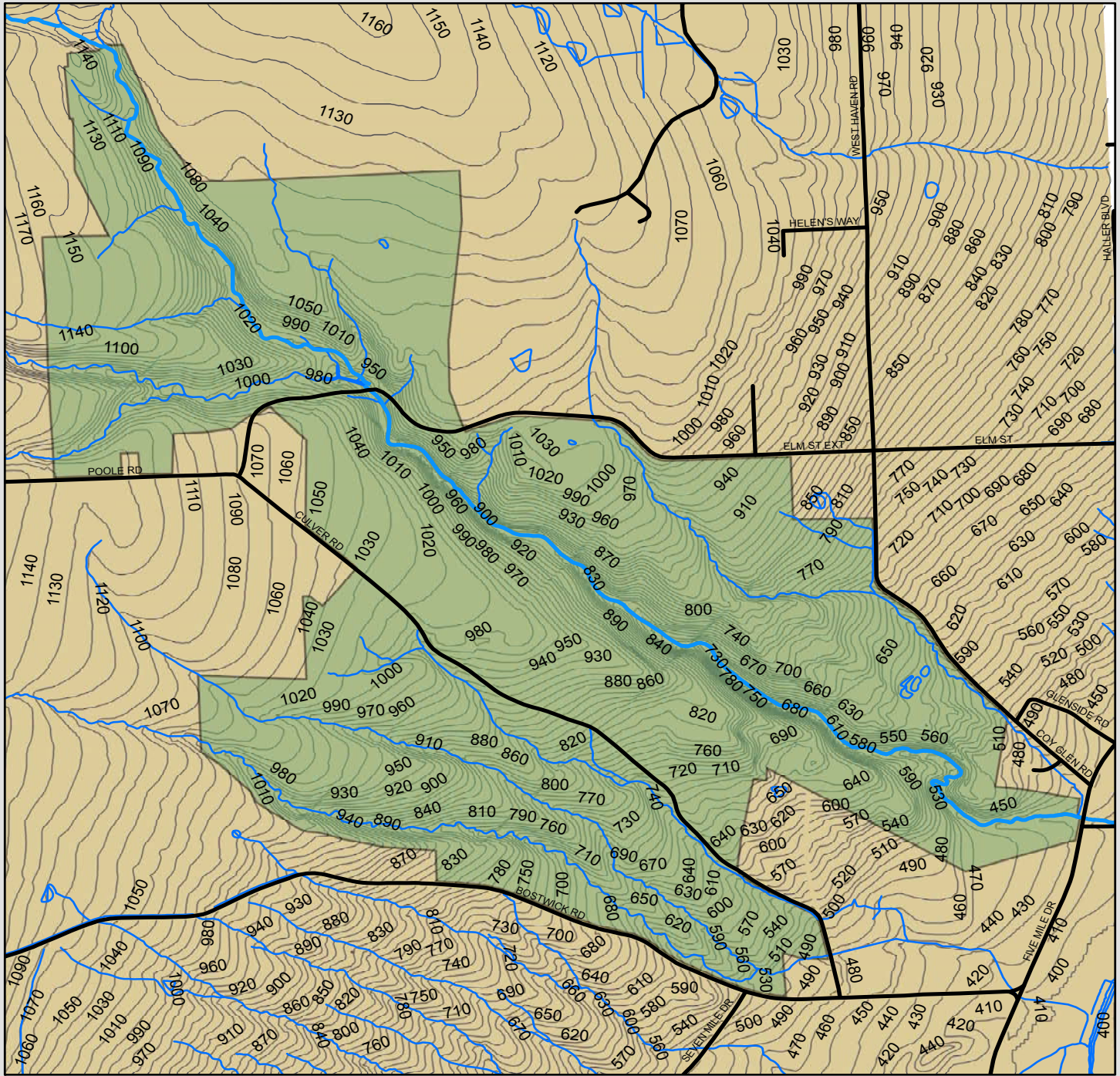
Legend

-  Proposed Conservation Zone
-  Highly erodible soils
-  Coy Glen Stream
-  Other Streams
-  Roads







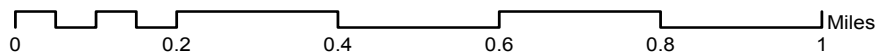
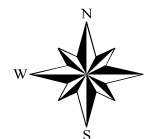
Created by: Town of Ithaca Planning Department
Data Sources: Tompkins County Information Technology Services, GIS Division; Town of Ithaca
Date Created: September 24, 2012

10. Topography of Southwest Glens and Creeks



Legend

-  Proposed Conservation Zone
-  Topographic line
-  Coy Glen Stream
-  Other Streams



Created by: Town of Ithaca Planning Department
 Data Sources: Tompkins County Information Technology Services, GIS Division; Town of Ithaca
 Date Created: September 24, 2012