


## Exercise 2: Soil Survey Report


1. What soil map unit symbol covers the largest area within the map?  
(Hint: look at percent in AOI)
2. How many acres does this soil map unit cover in the AOI?
3. What is the soil map unit name?
4. Looking at the soil map, is the 60C soil map unit mostly forested or open fields?
5. On the soil map, circle soil map unit 704A. What does the white symbols represent?
6. What is the polygon in the south east corner of the soils map labeled as W?


### Map Legend


#### Area of Interest (AOI)

 Area of Interest (AOI)


#### Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points


#### Special Point Features


 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression


 Gravel Pit


 Gravelly Spot

 Landfill


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other


 Special Line Features


#### Water Features


 Streams and Canals


#### Transportation


 Rails


 Interstate Highways


 US Routes


 Major Roads


 Local Roads

 Lava Flow


 Marsh or swamp


 Mine or Quarry


 Miscellaneous Water


 Perennial Water


 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot



<b>Map Unit Symbol</b>	<b>Map Unit Name</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
<b>3</b>	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	17.1	4.7%
<b>12</b>	Raypol silt loam	4.1	1.1%
<b>15</b>	Scarboro muck, 0 to 3 percent slopes	2.2	0.6%
<b>29B</b>	Agawam fine sandy loam, 3 to 8 percent slopes	11.2	3.0%
<b>34A</b>	Merrimac fine sandy loam, 0 to 3 percent slopes	3.1	0.8%
<b>34C</b>	Merrimac fine sandy loam, 8 to 15 percent slopes	2.0	0.5%
<b>38C</b>	Hinckley loamy sand, 3 to 15 percent slopes	2.8	0.8%
<b>38E</b>	Hinckley loamy sand, 15 to 45 percent slopes	14.0	3.8%
<b>45B</b>	Woodbridge fine sandy loam, 3 to 8 percent slopes	9.7	2.7%
<b>46B</b>	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	33.1	9.0%
<b>52C</b>	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	6.9	1.9%
<b>60C</b>	Canton and Charlton fine sandy loams, 8 to 15 percent slopes	10.7	2.9%
<b>60D</b>	Canton and Charlton soils, 15 to 25 percent slopes	21.0	5.7%
<b>61C</b>	Canton and Charlton fine sandy loams, 8 to 15 percent slopes, very stony	18.3	5.0%
<b>62D</b>	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	14.5	3.9%
<b>71E</b>	Nipmuck-Brimfield-Rock outcrop complex, 15 to 45 percent slopes	8.0	2.2%
<b>72C</b>	Nipmuck-Brookfield complex, 3 to 15 percent slopes, very rocky	36.2	9.9%

<b>84B</b>	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	42.9	11.7%
<b>84C</b>	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes	10.3	2.8%
<b>85B</b>	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony	23.0	6.3%
<b>101</b>	Occum fine sandy loam	8.0	2.2%
<b>102</b>	Pootatuck fine sandy loam	18.5	5.0%
<b>107</b>	Limerick and Lim soils	4.2	1.2%
<b>306</b>	Udorthents-Urban land complex	3.3	0.9%
<b>308</b>	Udorthents, smoothed	1.8	0.5%
<b>704A</b>	Enfield silt loam, 0 to 3 percent slopes	30.4	8.3%
<b>W</b>	Water	9.5	2.6%
<b>Totals for Area of Interest</b>		<b>366.9</b>	<b>100.0%</b>

Use the soil map unit descriptions and land classification information below to complete the following:

1. Draw a circle around the farmland classification of soil map units 15, 46B, and 84C.
2. Draw a rectangle around the soil parent material of soil map units 15, 46B, and 84C.
3. Under the typical profile, is there an O horizon described for soil map units 15, 46B, and 84C?
4. What soil map unit has the highest water table?
5. What soil map unit has a moderate rating for available water storage in the profile?

6. What soil map unit has the steepest slope?
7. What soil map unit has a negligible rating for runoff class? Why?
8. Draw a circle around the soil map units on the **Inland Wetlands table and map** that are CT Inland Wetlands.

## **84C—Paxton and Montauk fine sandy loams, 8 to 15 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 2w67b

*Elevation:* 0 to 1,550 feet

*Mean annual precipitation:* 36 to 71 inches

*Mean annual air temperature:* 39 to 55 degrees F

*Frost-free period:* 145 to 240 days

*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Paxton and similar soils:* 55 percent

*Montauk and similar soils:* 30 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Paxton**

#### **Setting**

*Landform:* Ground moraines, drumlins, hills

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Linear, convex

*Across-slope shape:* Convex

*Parent material:* Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

#### **Typical profile**

*Ap - 0 to 8 inches:* fine sandy loam

*Bw1 - 8 to 15 inches:* fine sandy loam

*Bw2 - 15 to 26 inches:* fine sandy loam

*Cd - 26 to 65 inches:* gravelly fine sandy loam

#### **Properties and qualities**

*Slope:* 8 to 15 percent

*Depth to restrictive feature:* 20 to 39 inches to densic material

*Drainage class:* Well drained

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low  
(0.00 to 0.14 in/hr)

*Depth to water table:* About 18 to 37 inches

*Frequency of flooding:* None

*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm)  
*Available water capacity:* Low (about 4.2 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* C  
*Ecological site:* F144AY007CT - Well Drained Dense Till Uplands  
*Hydric soil rating:* No

### **Description of Montauk Setting**

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

### **Typical profile**

*Ap - 0 to 4 inches:* fine sandy loam  
*Bw1 - 4 to 26 inches:* fine sandy loam  
*Bw2 - 26 to 34 inches:* sandy loam  
*2Cd - 34 to 72 inches:* gravelly loamy sand

### **Properties and qualities**

*Slope:* 8 to 15 percent  
*Depth to restrictive feature:* 20 to 39 inches to densic material  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 1.42 in/hr)  
*Depth to water table:* About 18 to 37 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm)  
*Available water capacity:* Low (about 5.2 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* C  
*Ecological site:* F144AY007CT - Well Drained Dense Till Uplands  
*Hydric soil rating:* No

### **Minor Components**

#### **Woodbridge**

*Percent of map unit:* 6 percent  
*Landform:* Drumlins, hills, ground moraines  
*Landform position (two-dimensional):* Backslope, footslope

*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Hydric soil rating:*  
No

#### **Charlton**

*Percent of map unit:* 5 percent  
*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear, convex  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

#### **Ridgebury**

*Percent of map unit:* 3 percent  
*Landform:* Hills, depressions, drumlins, drainageways, ground moraines  
*Landform position (two-dimensional):* Footslope, toeslope  
*Landform position (three-dimensional):* Base slope, head slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

#### **Stockbridge**

*Percent of map unit:* 1 percent  
*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

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

#### **Map Unit Setting**

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

#### **Map Unit Composition**

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

#### **Description of Woodbridge, Very Stony**

##### **Setting**

*Landform:* Hills, ground moraines, drumlins

*Landform position (two-dimensional):* Backslope, footslope, summit

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Parent material:* Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

### **Typical profile**

*Oe - 0 to 2 inches:* moderately decomposed plant material

*A - 2 to 9 inches:* fine sandy loam

*Bw1 - 9 to 20 inches:* fine sandy loam

*Bw2 - 20 to 32 inches:* fine sandy loam

*Cd - 32 to 67 inches:* gravelly fine sandy loam

### **Properties and qualities**

*Slope:* 0 to 8 percent

*Surface area covered with cobbles, stones or boulders:* 1.6 percent

*Depth to restrictive feature:* 20 to 43 inches to densic material

*Drainage class:* Moderately well drained

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low  
(0.00 to 0.14 in/hr)

*Depth to water table:* About 19 to 27 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm)

*Available water capacity:* Low (about 4.0 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6s

*Hydrologic Soil Group:* C/D

*Ecological site:* F144AY037MA - Moist Dense Till Uplands

*Hydric soil rating:* No

### **Minor Components Paxton,**

#### **very stony**

*Percent of map unit:* 10 percent

*Landform:* Drumlins, hills, ground moraines

*Landform position (two-dimensional):* Shoulder, backslope, summit

*Landform position (three-dimensional):* Crest, side slope

*Down-slope shape:* Linear, convex

*Across-slope shape:* Convex, linear

*Hydric soil rating:* No

#### **Ridgebury, very stony**

*Percent of map unit:* 8 percent

*Landform:* Ground moraines, depressions, drumlins, drainageways, hills

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Head slope, base slope

*Down-slope shape:* Concave



*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

## **15—Scarboro muck, 0 to 3 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 2svkt  
*Elevation:* 0 to 1,350 feet  
*Mean annual precipitation:* 36 to 71 inches  
*Mean annual air temperature:* 39 to 55 degrees F  
*Frost-free period:* 140 to 240 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Scarboro and similar soils:* 80 percent  
*Minor components:* 20 percent

### **Description of Scarboro**

#### **Setting**

*Landform:* Outwash deltas, depressions, drainageways, outwash terraces  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Base slope, tread, dip  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave, linear  
*Parent material:* Sandy glaciofluvial deposits derived from schist and/or gneiss and/or granite

#### **Typical profile**

*Oa - 0 to 8 inches:* muck  
*A - 8 to 14 inches:* mucky fine sandy loam  
*Cg1 - 14 to 22 inches:* sand  
*Cg2 - 22 to 65 inches:* gravelly sand

#### **Properties and qualities**

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Very poorly drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (1.42 to 14.17 in/hr)  
*Depth to water table:* About 0 to 2 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* Frequent  
*Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm)  
*Available water capacity:* Moderate (about 6.1 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 5w  
*Hydrologic Soil Group:* A/D

Ecological site: F144AY031MA - Very Wet Outwash  
 Hydric soil rating: Yes

**Minor Components**

**Timakwa**

Percent of map unit: 10 percent  
 Landform: Swamps  
 Landform position (two-dimensional): Toeslope  
 Landform position (three-dimensional): Base slope, tread, dip  
 Down-slope shape: Linear, concave  
 Across-Slope shape: Linear, concave  
 Hydric soil rating: Yes

**Walpole**

Percent of map unit: 8 percent  
 Landform: Deltas, outwash terraces, depressions, outwash plains, depressions  
 Landform position (two-dimensional): Toeslope  
 Landform position (three-dimensional): Tread, talf, dip  
 Down-slope shape: Concave  
 Across-slope shape: Concave  
 Hydric soil rating: Yes

**Deerfield**

Percent of map unit: 2 percent  
 Landform: Outwash plains, terraces  
 Landform position (three-dimensional): Tread, dip  
 Down-slope shape: Linear  
 Across-slope shape: Concave  
 Hydric soil rating: No

**Table—Inland Wetlands (CT) (Spring Manor)**

Map unit symbol	Map unit name	Rating	Component name (percent)	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	CT wetland	Ridgebury, extremely stony (40%)	17.1	4.7%
			Leicester, extremely stony (35%)		
			Whitman, extremely stony (17%)		
			Swansea (2%)		
12	Raypol silt loam	CT wetland	Raypol (80%)	4.1	1.1%
			Walpole (2%)		

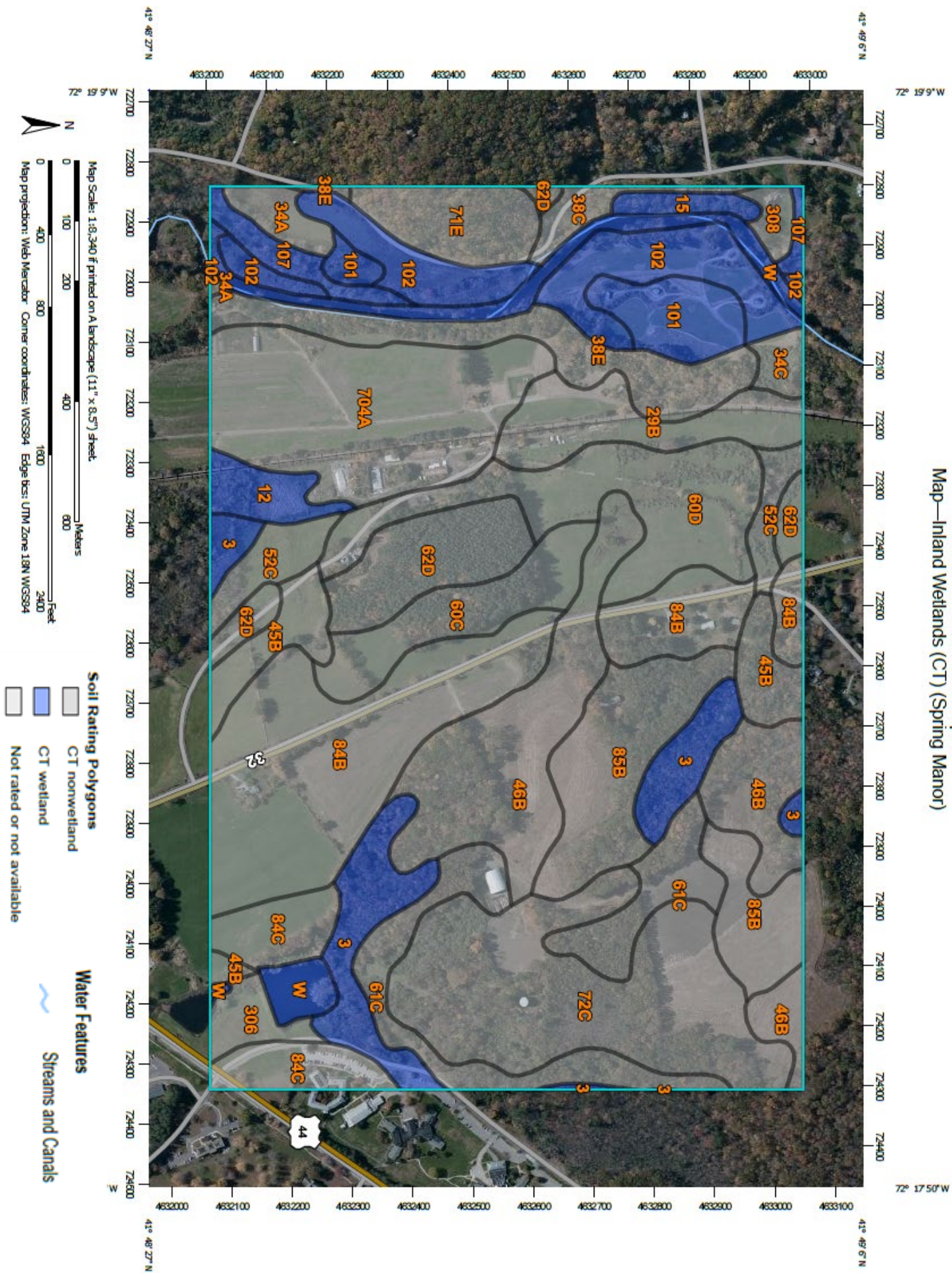
			Scarboro (2%)		
15	Scarboro muck, 0 to 3 percent slopes	CT wetland	Scarboro (80%) Timakwa (10%) Walpole (8%)	2.2	0.6%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	CT nonwetland	Agawam (85%) Hinckley (5%) Sudbury (5%) Merrimac (3%) Windsor (2%)	11.2	3.0%
34A	Merrimac fine sandy loam, 0 to 3 percent slopes	CT nonwetland	Merrimac (85%) Hinckley (5%) Sudbury (5%) Agawam (3%) Windsor (2%)	3.1	0.8%
34C	Merrimac fine sandy loam, 8 to 15 percent slopes	CT nonwetland	Merrimac (85%) Sudbury (5%) Windsor (5%) Hinckley (5%)	2.0	0.5%
38C	Hinckley loamy sand, 3 to 15 percent slopes	CT nonwetland	Hinckley (85%) Windsor (5%) Merrimac (5%) Agawam (3%) Sudbury (2%)	2.8	0.8%
38E	Hinckley loamy sand, 15 to 45 percent slopes	CT nonwetland	Hinckley (85%) Merrimac (5%) Windsor (5%) Agawam (3%) Sudbury (2%)	14.0	3.8%
45B	Woodbridge fine sandy loam, 3 to 8 percent slopes	CT nonwetland	Woodbridge, fine sandy loam (82%) Paxton (10%)	9.7	2.7%
46B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	CT nonwetland	Woodbridge, very stony (82%) Paxton, very stony (10%)	33.1	9.0%
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	CT nonwetland	Sutton, extremely stony (80%) Woodbridge, extremely stony (7%)	6.9	1.9%

			Canton, extremely stony (5%)		
			Charlton, extremely stony (5%)		
60C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes	CT nonwetland	Canton (50%)	10.7	2.9%
			Charlton (35%)		
			Chatfield (5%)		
			Sutton (5%)		
60D	Canton and Charlton soils, 15 to 25 percent slopes	CT nonwetland	Canton (45%)	21.0	5.7%
			Charlton (35%)		
			Hollis (5%)		
			Sutton (5%)		
			Chatfield (5%)		
61C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes, very stony	CT nonwetland	Canton, very stony (50%)	18.3	5.0%
			Charlton, very stony (35%)		
			Chatfield, very stony (5%)		
			Sutton, very stony (5%)		
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	CT nonwetland	Canton, extremely stony (55%)	14.5	3.9%
			Charlton, extremely stony (30%)		
			Sutton, extremely stony (5%)		
			Chatfield, extremely stony (5%)		
			Hollis, extremely stony (5%)		
71E	Nipmuck-Brimfield-Rock outcrop complex, 15 to 45 percent slopes	CT nonwetland	Nipmuck (45%)	8.0	2.2%
			Brimfield (35%)		
			Rock outcrop (10%)		
			Brookfield (10%)		
72C	Nipmuck-Brookfield complex, 3 to 15 percent slopes, very rocky	CT nonwetland	Nipmuck (50%)	36.2	9.9%
			Brookfield (40%)		
			Brimfield (5%)		

			Rock outcrop (5%)		
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	CT nonwetland	Paxton (55%)	42.9	11.7%
			Montauk (30%)		
			Woodbridge (5%)		
			Charlton (5%)		
84C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes	CT nonwetland	Paxton (55%)	10.3	2.8%
			Montauk (30%)		
			Woodbridge (6%)		
			Charlton (5%)		
			Stockbridge (1%)		
85B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony	CT nonwetland	Paxton, very stony (55%)	23.0	6.3%
			Montauk, very stony (30%)		
			Woodbridge, very stony (8%)		
			Charlton, very stony (3%)		
			Stockbridge, very stony (1%)		
101	Occum fine sandy loam	CT wetland	Occum (80%)	8.0	2.2%
			Rippowam (5%)		
			Suncook (5%)		
			Pootatuck (5%)		
102	Pootatuck fine sandy loam	CT wetland	Pootatuck (80%)	18.5	5.0%
			Occum (5%)		
			Suncook (5%)		
			Rippowam (3%)		
			Lim (3%)		
			Limerick (2%)		

			Saco (2%)		
107	Limerick and Lim soils	CT wetland	Limerick (50%)	4.2	1.2%
			Lim (30%)		
			Saco (8%)		
			Rippowam (5%)		
			Winooski (3%)		
			Hadley (2%)		
			Bash (2%)		
306	Udorthents-Urban land complex	CT nonwetland	Udorthents (50%)	3.3	0.9%
			Urban land (35%)		
			Unnamed, undisturbed soils (8%)		
			Rock outcrop (2%)		
308	Udorthents, smoothed	CT nonwetland	Udorthents (80%)	1.8	0.5%
			Unnamed, undisturbed soils (7%)		
			Urban land (5%)		
			Rock outcrop (1%)		
704A	Enfield silt loam, 0 to 3 percent slopes	CT nonwetland	Enfield (85%)	30.4	8.3%
			Tisbury (5%)		
			Haven (5%)		
			Agawam (3%)		
W	Water	CT wetland	Water (100%)	9.5	2.6%
<b>Totals for Area of Interest</b>				<b>366.9</b>	<b>100.0%</b>

Custom Soil Resource Report  
 Map—Inland Wetlands (CT) (Spring Manor)



Map Scale: 1:8,340 ft printed on A landscape (11" x 8.5") sheet.

0 100 200 400 Meters

0 400 800 1600 2400 Feet

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

Soil Rating Polygons

- CT nonwetland
- CT wetland
- Not rated or not available

Water Features


- Streams and Canals

## Exercise 3: Web Soil Survey



Launch Web Soil Survey by clicking the green 'Start WSS' button

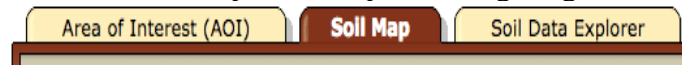
On the left-hand of the screen under “quick navigation” click the down arrow next to “latitude and longitude or current location” and enter the coordinates **(41.81218, -72.30917)**.

Create an AOI (area of interest) using either the polygon tool , or the rectangle tool



You should see a defined hatched area.

The next few steps will require navigating the tabs.



Click the Soil Map tab and observe the map unit legend. Scroll down the legend and click on Canton and Charlton fine sandy loams, 8 to 15 percent slopes and read the Description of Charlton.

1. Under Settings, what are the three landforms Canton and Charlton soils are formed on?
2. Under properties and qualities, does this soil map unit flood or pond?
3. Under the Typical Profile, how many horizons are described?

Click on the **Soil Data Explorer** tab, **Soil Properties and Qualities** tab, **Soil Health Properties** tab, **Soil Health – Organic Matter**, and **View Rating**. Open the **legend** tab to see what the colors represent. Below the map is the interpretation report – view the soil organic matter ratings (percent) for each soil map unit.

1. Why are some soils much higher in organic matter than others? Could it be that some soils are forested, and others are cropped?

Click on **Soil Qualities and Features**, **Parent Material Name**, and **View Rating**. Read the summary rating by soil map unit below the map.

What are some of the soil map unit symbols of the soils formed in eolian deposits?

- ❖ If you have time, locate what soils are mapped at your school or home.