

# Natural Resource Inventory Town of Trumbull, Connecticut

Photo:  
Pequonnock River Valley Park

Prepared by  
Trumbull Conservation Commission  
September, 2020

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## INTRODUCTION

The Town Trumbull's Plan of Conservation & Development recommends that the Town's natural resources be inventoried.<sup>1</sup> This Natural Resources Inventory (NRI) describes the Town's conservation values: its rivers and streams, woods and fields, plants and wildlife, areas for passive recreation and places of scenic beauty. It also identifies threats such as pollution, flooding, development, invasive plants and climate change and recommends steps that can be taken to diminish these threats. The NRI's detailed maps and descriptions of Trumbull's parks and open space can be a helpful guide to citizens wishing to gain a greater appreciation of their Town's natural resources. By implementing these recommendations to protect these natural assets, the public's health and safety is ensured and the public's quality of life is enhanced.

*Trumbull's Plan of Conservation & Development recommends that natural resources be inventoried*

## RECOMMENDATIONS

The following recommendations--all of which are voluntary-- result from guidance from the Trumbull Conservation Commission and from information gathered during the Natural Resource Inventory process, including field surveys of the Town's 16 Parks and 36 town-owned properties. Funding for many of the recommendations including open space acquisition, creation of walking trails, tree planting, stream restoration and storm water improvements is available from various sources. For example, the Land and Water Conservation Fund, passed in August 2020, is allocating \$900 million annually for conservation. Many other actions are low cost and several only require changes in maintenance procedures. Most can be accomplished with the help of volunteers including Garden Clubs, groups working on the Pollinator Pathways project, Scouts and other organizations.

### **1. GREEN LANDSCAPING BY TOWN/BUSINESSES & HOMEOWNERS:**

Since most of Trumbull (98%) is either developed or preserved, natural resource protection should focus on proper stewardship of yards, business properties, schools and

<sup>1</sup> Plan of Conservation & Development, page 79

institutions. An outreach program to encourage green landscaping practices can include: reducing pesticide and fertilizer use, planting native plants, allowing vegetation to grow in buffers around watercourses and converting grassy areas to meadow. Trumbull's Department of Public Works already has an excellent brochure that can be the basis for a series of mailings to all residents and postings on the Town's website. Twin Brooks and Unity Park have pesticide and fertilizer management plans that can also be models. The EPA's Green Streets program can be used along Trumbull's streets and parking lots<sup>2</sup>. Restoring lawn to meadow as demonstrations sites can be done at lawns at Trumbull Nature & Arts Ceenter, Aldo Park and Nichols Park. Meadow habitat can be maintained with annual brush hogging at Old Tashua Tree Farm and Great Oak Park.

## **2. PRESERVE OPEN SPACE:**

Consider preservation of the few remaining undeveloped areas in Trumbull including: Gate of Heaven Cemetery (55 acres), Hardy Group-Penkoff Assoc. (23 acres), Plasko Farm (15 acres), Knecht Farm (13 acres), Hidden Pond LLC (12 acres), Pert house (10 acres), Krisak lots (10 acres), Parlor Rock lot (1 acre) (see Possible Open Space Acquisition Map page 24 and Open Space Priority Parcels Map page 25). Consider conservation easements on large lots at Birdsall Avenue/Pequonnock River Valley Park.

## **3. CREATE HIKING TRAILS:**

Create hiking trails at: Old Tashua Tree Farm to Tashua Recreation Area; Park Street and Wordins Lane to Trumbull Middle, High and Agriscience Schools; at Mary Bill; at entrances along the Booth Hill Greenway; connecting Beach Memorial to Trumbull High School and Hillcrest Middle School; at Hill Top Drive connecting to Nichols Park; at Chernak Preserve; at Hidden Pond to Shelton if parcels are protected; at Unity Park; at Davidow Park and Revere Lane. Additional trail blazes and signs are needed at Beach Memorial and Twin Brooks Parks, at Old Mine Park, at Great Oak Park, at Middlebrook Park, at Parlor Rock. Add/fix footbridges at Island Brook, Mary Bill. These are good Scout projects.

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<sup>2</sup> <https://www.epa.gov/G3/learn-about-green-streets>

#### **4. CONNECT GREENWAYS:**

Create greenways at: Halaby Preserve to Trapp Falls Reservoir; from Old Tashua Tree Farm to Aquarion Properties to Tashua Knolls Recreation Area.

#### **5. TRAINING/REGULATION:**

Encourage training by town officials including wetlands and building inspectors

Review/strengthen wetland law including buffer size and enforcement

Implement a steep slope ordinance protecting vegetation on slopes steeper than 15%

Review construction mitigation measures for effectiveness to prevent erosion events

Address incursions on town property by neighbors (lawn mowing/dumping/filling)

at Shelton Terrace, Tait Road, Great Oak Park, Friar Lane, Chernak Nature

Preserve and Randall Nature Preserve.

#### **6. STORMWATER & WATER QUALITY IMPROVEMENTS:**

Continue to implement Town's Storm Water Management Plan emphasizing: the stated goal of cleaning catch basins annually (versus 813 cleaned in 2019); begin monitoring of impaired waters for bacteria (scheduled for 2020) and disconnecting 1% (15) of DCIAs (Directly Connected Impervious Areas) annually (versus 1 to date).

Implement stormwater retrofits including: vegetated swales, bioretention basins, rain gardens, infiltration trenches and permeable pavement at roads and parking lots, stream banks, culverts and where storm water discharges directly into streams. Potential locations identified in the Pequonnock River Watershed Plan include Unity Park and the Booth Hill Greenway. Other locations identified in the NRI include: the steep slopes along the western edge of Pequonnock River Valley Park and Tait Road culverts draining into the Pequonnock River.

Reduce impervious surfaces at parking lots and other paved areas as was done at the Long Hill Green lot in 2019

Continue wetland and streambank restoration as was done at Old Mine Park in 2013. Potential sites include the Mary Bill stream and Indian Ledge streams.

## **7. INVASIVE PLANTS & DISEASES:**

Remove: invasive burning bush along River Trail; mugwort at Old Mine restoration site; mugwort in Twin Brooks meadows; autumn olive at Old Tashua Tree Farm and Trumbull Nature & Arts Center; mugwort, knotweed, bittersweet, ailanthus, burning bush at Mary Bill.

Consider treating some diseased hemlocks at Pequonnock River Valley Park.

## **8. CLIMATE CHANGE:**

Climate change is beyond the scope of this Natural Resource Inventory and is a national and international issue but the following actions can be taken by Trumbull and other towns to mitigate the effects of climate change which include increased precipitation and flooding directly effecting Trumbull:

Promoting renewable energy especially solar and geothermal energy

Increasing energy efficiency in homes and buildings by promoting insulation

Encouraging more use of mass transit

Establishing electric car recharge stations

Buying low-emission vehicles for the town's and schools' vehicle fleet

Reducing idling

Promoting green roofs

Using trees to shade and cool buildings

Encouraging locally sourced food with Farmers' Markets

Creating community gardens

Facilitating the buying of local food in schools and institutions

Promoting recycling

Establishing a town composting site

Banning plastic bags and leaf blowers

Establishing ways to swap and recycle consumer goods

Reducing trash by establishing 'pay-as-you-throw' trash pricing

### WHAT IS A NATURAL RESOURCE INVENTORY?

A Natural Resource Inventory ('NRI') is a document prepared by municipalities, with assistance from their Conservation Commissions that identifies important natural resources in the municipality. By examining current conditions, conservation values, threats to natural resources and actions to protect the town's natural resources, towns can balance development with conservation to ensure that the benefits of healthy ecosystems are available to the community and to future generations. By analyzing natural resources over a large area, the functioning of watersheds, long stream corridors, large wetlands, extensive areas of forest and corridors connecting them can be protected better than if looked at individually. The NRI can then be used by individuals, homeowners, businesses, developers, town agencies and others to guide their actions and can also be an educational resource for citizens to learn more about their immediate environment. The following detailed maps and descriptions can be also be used by hikers and others who wish to learn more about Trumbull's natural resources.

*Conservation Commissions shall keep an index of all open areas*

### LEGAL & TOWN SUPPORT FOR A NATURAL RESOURCE INVENTORY

Connecticut State law, Chapter 97, Section 7-131a, authorizes towns to create Conservation Commissions "for the development, conservation, supervision and regulation of natural resources, including water resources". A conservation commission may inventory natural resources. It shall keep an index of all open areas, publicly or privately owned, for the purpose of obtaining information on the proper use of such areas, and may recommend plans and programs for the development and use of such areas.<sup>3</sup> Trumbull's Plan of Conservation and Development calls for the completion of a Natural Resource Inventory, encourages developers and land use applicants to consult the NRI and recommends that land use commissions use the NRI as they are reviewing applications.<sup>4</sup> In early 2019 the Conservation Commission led by Chair Mary Ellen Lemay began preparation of this NRI.

<sup>3</sup> [https://www.cga.ct.gov/current/pub/chap\\_097.htm#sec\\_7-131a](https://www.cga.ct.gov/current/pub/chap_097.htm#sec_7-131a)

<sup>4</sup> Trumbull POCD 2014, p. 79

Trumbull is located in Fairfield County and has a population of 36,000 according to the 2010 census. English colonists settled nearby Stratford in 1639. Trumbull was recognized as a town independent from Stratford in 1797 and is named for Jonathan Trumbull, Governor of Connecticut and a patriot in the Revolutionary War. Before the English colonists arrived, the Paugusset tribe occupied the area. The Golden Hill Paugusset are a state-recognized Native American tribe and have a state-recognized reservation in the Nichols section of Trumbull, site of a Paugusset burial ground. The Pequonnock River which runs through Trumbull to Long Island Sound takes its name from the Algonquian word for cleared land and refers to the large open fields that, in addition to seafood from Long Island Sound, provided food for the Paugussets<sup>5</sup>.

The Town of Trumbull is committed to protecting open space and the town's natural ecosystems. The town's 2014 Plan of Conservation and Development states:

"Trumbull's natural beauty is derived from rivers, streams, ponds, trees, and other natural resources. These features support our health, well-being and quality of life and provide habitat. We can continue to protect our most important resources as open space where feasible, encourage our residents and business community to be good stewards of resources on and near their land, and ensure that we employ the latest tools and techniques to protect our natural ecosystem."<sup>6</sup>

Trumbull's open space comprises 16% of the Town<sup>7</sup>. Combined with privately owned forested land, 21% of the Town is woods and water<sup>8</sup> (see Open Space Map on following page). Only 1-2% of the Town, however, is vacant. The majority of Trumbull is moderate density residences, businesses, schools and roads. What little remaining undeveloped land can be protected. The focus of this report, however, is on good stewardship of the Town's Parks and other town-owned open space.

*A goal of the Town's Plan of Conservation & Development is to preserve its natural resources*

<sup>5</sup> A History of Connecticut's Golden Hill Paugusset Tribe. (2007). Charles Brilvitch.

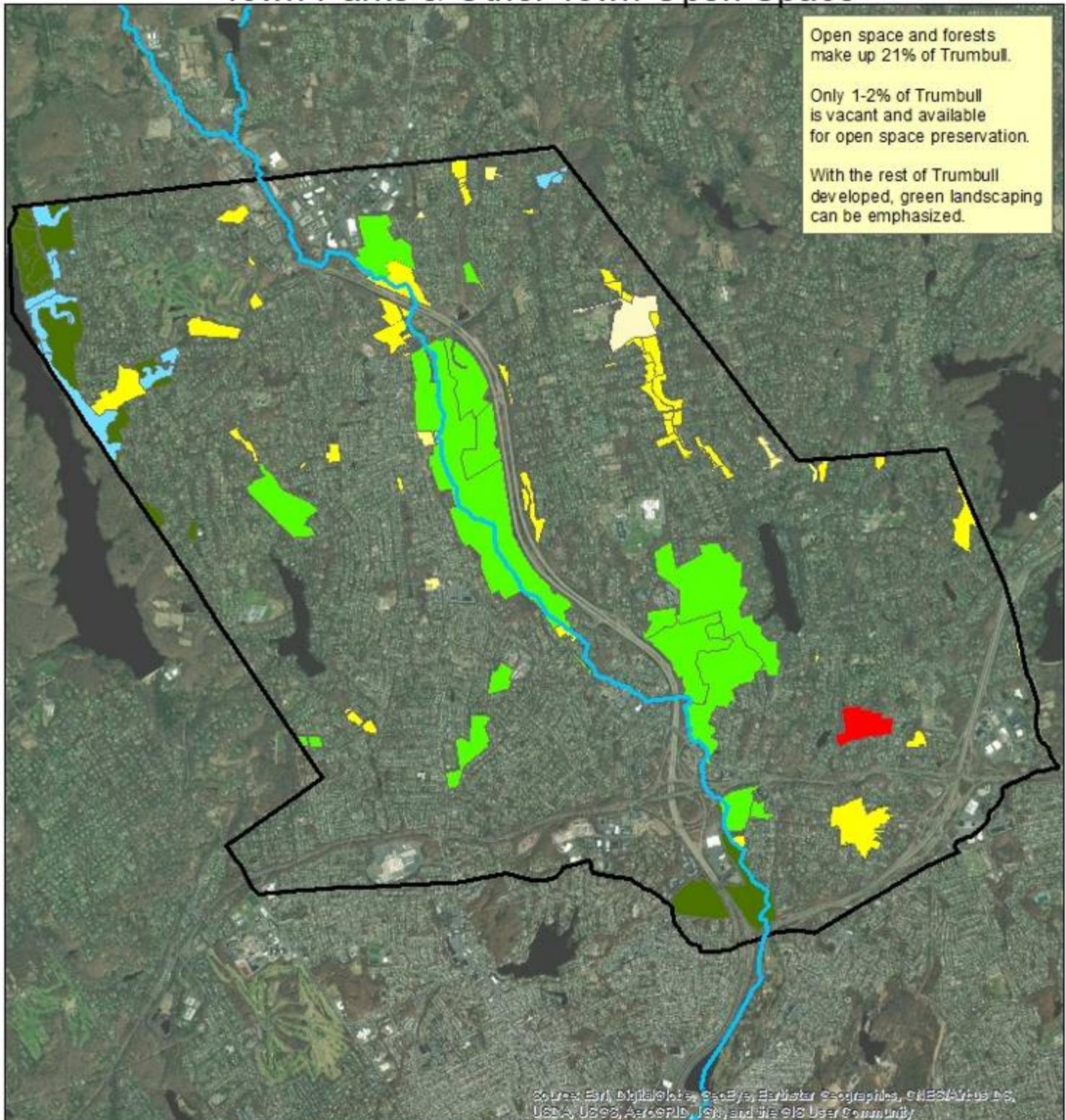
<sup>6</sup> Plan of Conservation & Development (2014), p. 69

<sup>7</sup> Plan of Conservation & Development (2014), p. 15

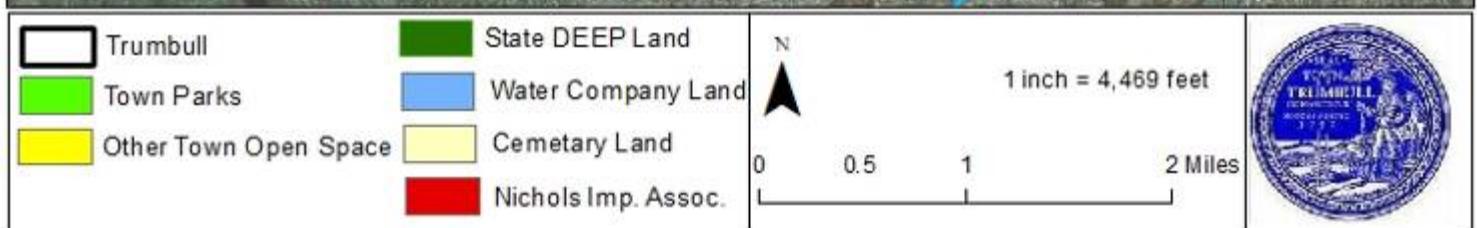
<sup>8</sup> Baseline Watershed Assessment Pequonnock River Watershed (2010), page 81.

# Trumbull Open Space Map

## Town Parks & Other Town Open Space



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Trumbull is located in the Western Uplands unit of Connecticut, a region comprised of metamorphic rock--primarily schist, gneiss and granite (see Bedrock Map page 15 which shows that the bedrock in the Town is primarily schist along with schist and granite formations). The exception is at Old Mine Park which has in addition to schist, contains amphibolite, marble and quartzite--a reason the area was mined beginning in the 1700's.

Surficial materials lie between the bedrock layer and the upper, soil layer. In Trumbull surficial materials are from the glaciers, the last of which melted around 10,000 years ago. Glacier melt-outs deposited till across most of Trumbull along with some deposits of sand and gravel.

Soils vary throughout Trumbull with the best soils for farming, termed 'Prime Farmland Soils', found in the eastern portion of Town where the last three remaining farms are located (see Soils Map page 16). For conservation, cultural, historical and food security reasons, these important soils and the farms utilizing them should be protected. The predominant soils in the western section of Town are Charlton-Chatfield soils which are very deep but dry soils. Soils along the Pequonnock River where slopes are steep are Hollis-Chatfield Rock Outcrop soils which also dry but very shallow with many areas having exposed bedrock. Soils in the southern portion of Town are Paxton-Urban which, where they have not been disturbed by construction, are deep and well-drained. Other soils in the south of Town are Udorthants which are soils so disturbed by construction that they have no defining characteristics.

Trumbull's topography is shaped by past glaciers with hills, valleys and streams generally in a north-south direction. Peak elevations are found on the far western portion of Town at Tashau Hill which rises 615 feet above sea level, and at the far eastern portion of Trumbull at Booth Hill which has an elevation of 510 Feet. Steep slopes are found along the Pequonnock River's west bank where elevations drop from 430 feet to 240 feet over a distance of less than 1,000 feet. Building along the ridge coupled with heavy rains has created gullies and erosion while allowing stormwater to flow down these steep slopes to the

river below (see Pequonnock River Valley Stormwater Erosion Map, page 24). The steep topography along the Pequonnock River also exacerbates flooding.

## HYDROLOGY

The Pequonnock River flows north to south for 6.5 miles through the center of Trumbull before emptying into Long Island Sound 4 miles to the south (see Hydrology Map page 19). Water quality in approximately 80% of the Pequonnock River, including most portions of the River that run through Trumbull, do not meet minimum standards for recreation or habitat for fish and wildlife (see Water Quality Impairment map on following page). Poor water quality is generally the result of urbanization within the watershed.<sup>9</sup> Tributaries to the Pequonnock River include Farrars Brook which begins near the Trumbull/Monroe town line and flows southeast to the main stem of the Pequonnock River and Belden Brook which is south of Indian Ledge Park and flows into the Pequonnock River from the east. Booth Hill Brook flows parallel and to the east of the Pequonnock River. Booth Hill Brook flows into Pinewood Lake and continues downstream of the lake to its confluence with the Pequonnock River. These tributaries' water quality has not been assessed.

*80% of the Pequonnock River does not meet water quality standards for recreation or for fish & wildlife*

While many of the recommendations in the Pequonnock River Initiative's reports pertain to the Pequonnock River, all of the best management practices for improving water quality of the River will also benefit the rest of the lakes, streams and wetlands in Trumbull as well as mitigating against flooding which is a substantial problem in several areas of Trumbull (see Flood Risk Map page 14).

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<sup>9</sup> Pequonnock River Watershed Based Plan 2011, p. ES-1

# Pequonnock River Water Quality Impairments

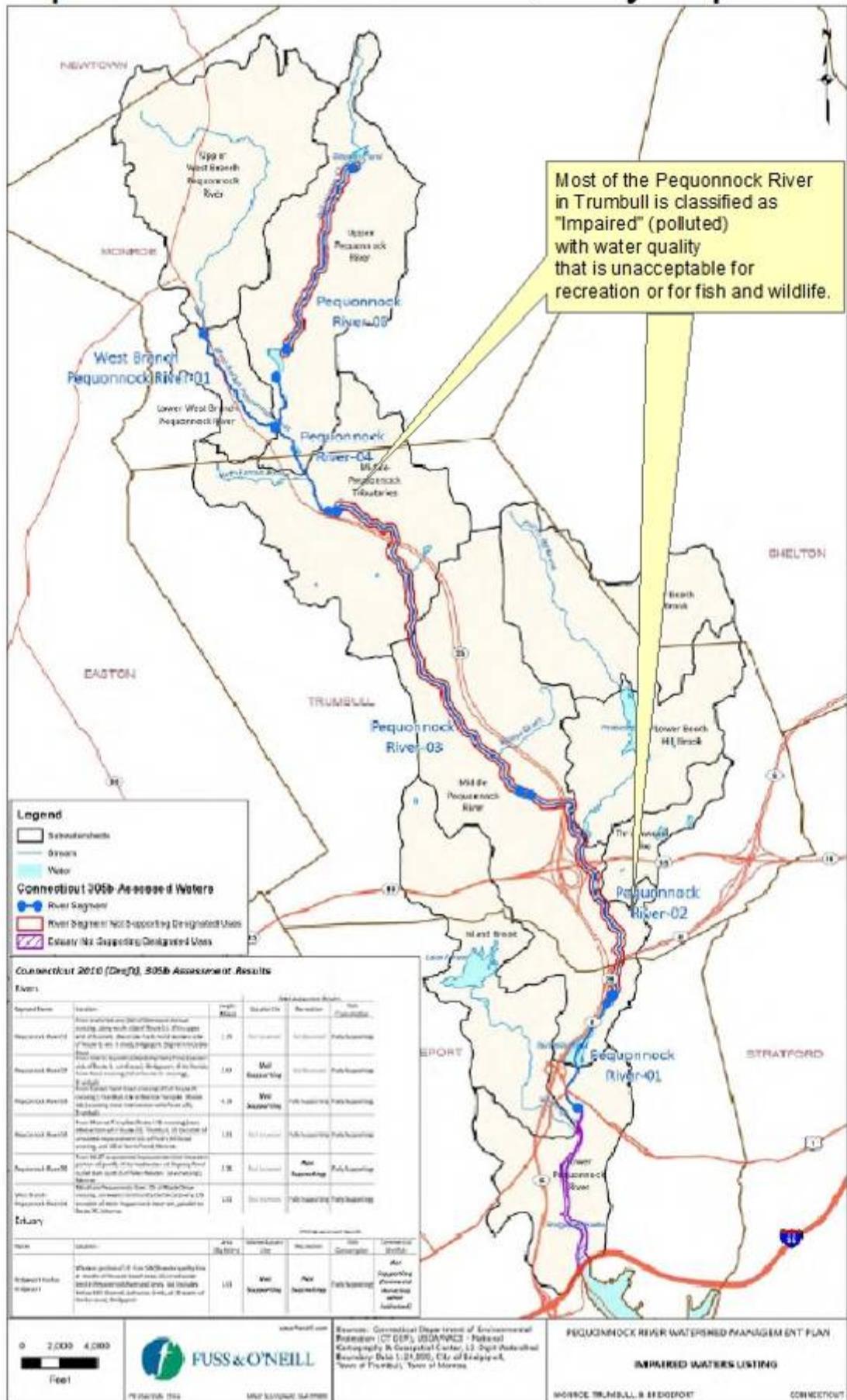
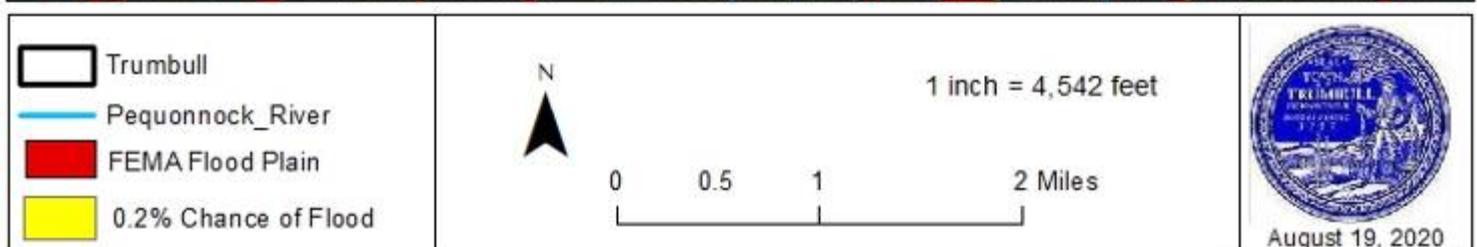
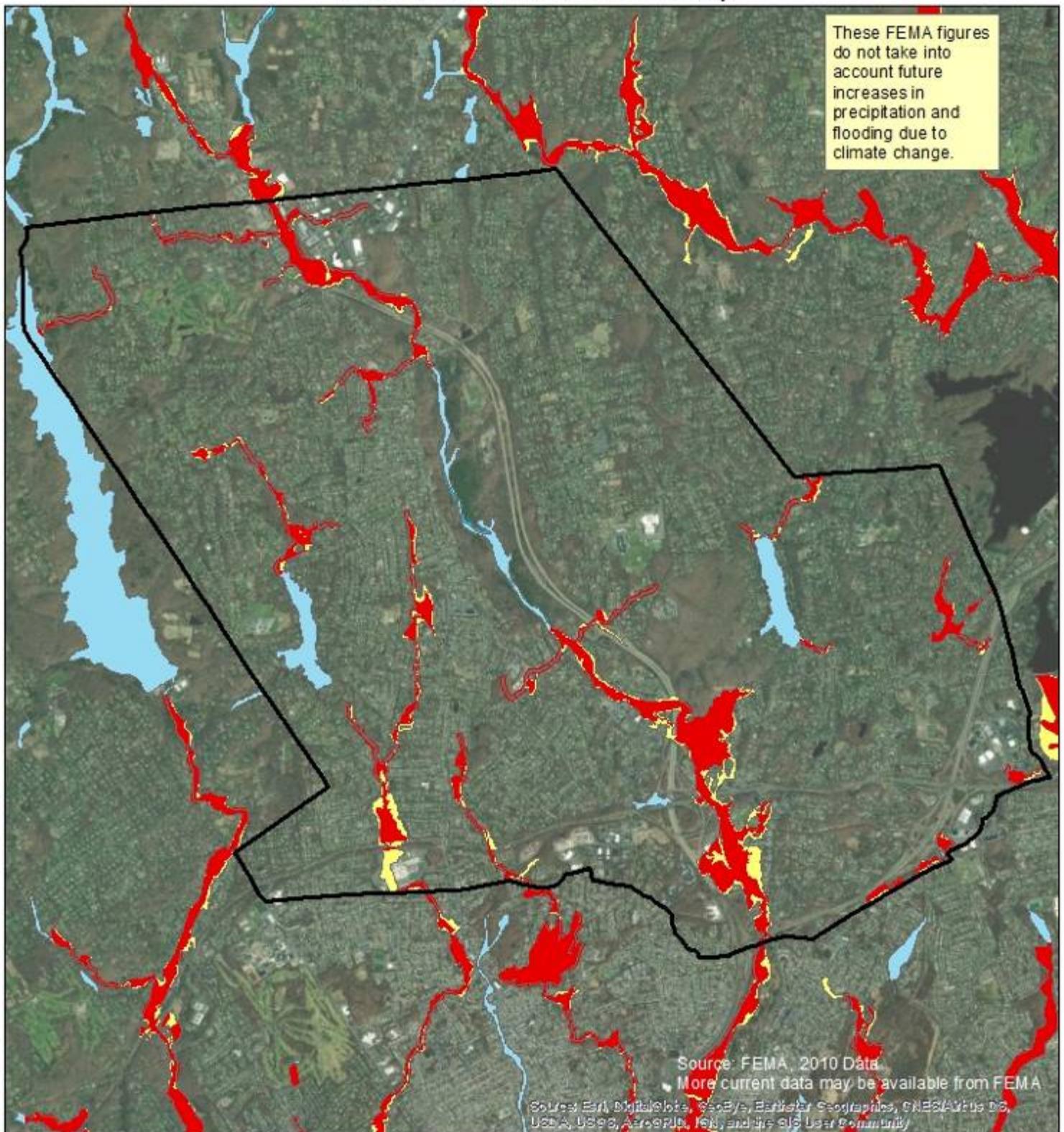
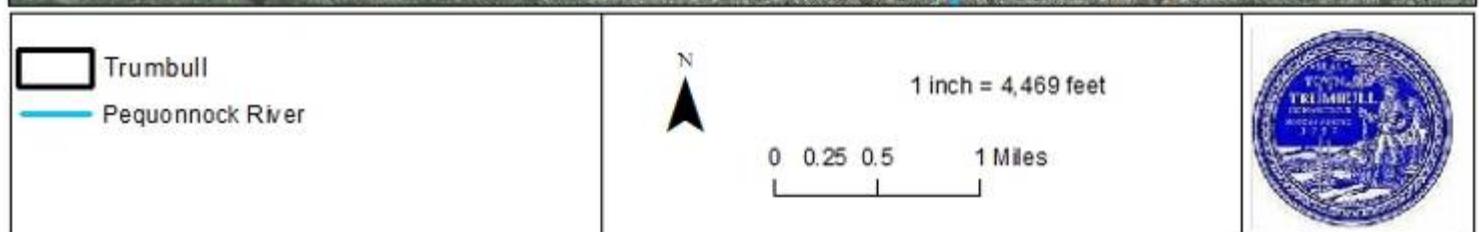
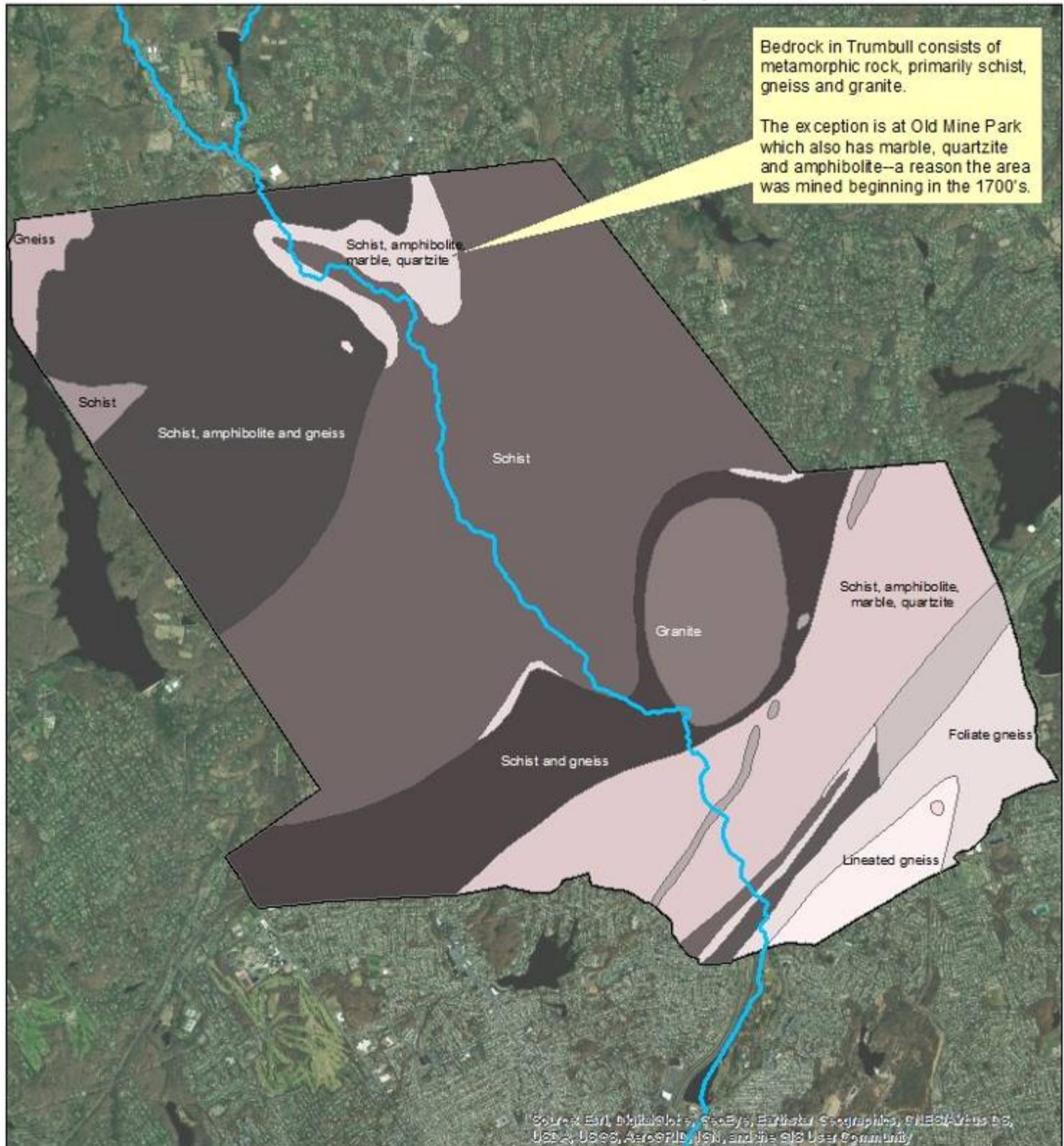


Figure 1-3. Water Quality Impairments

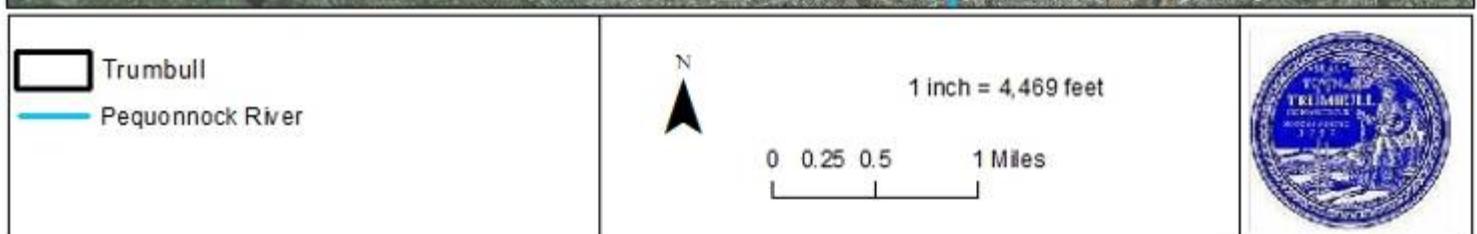
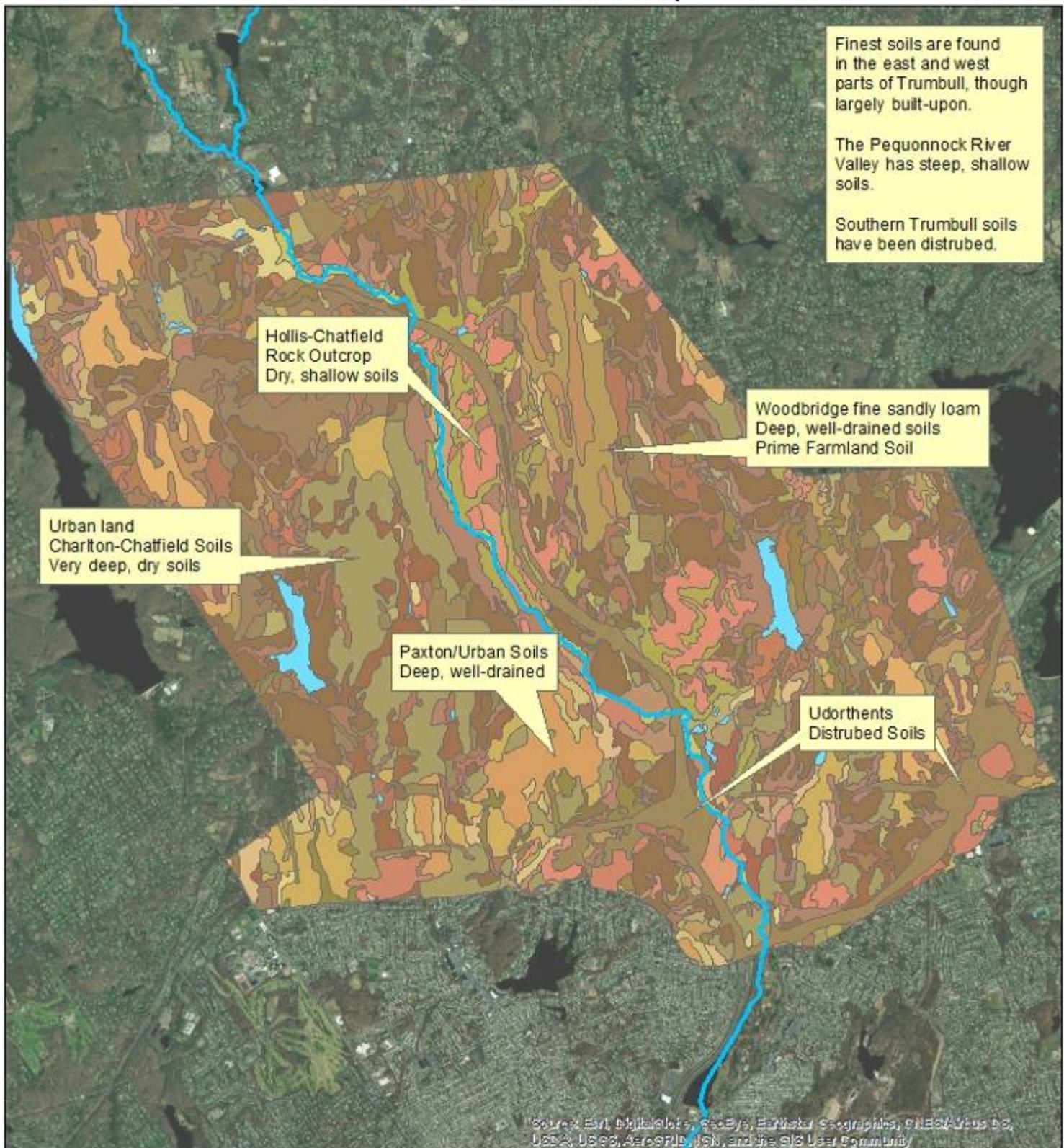
# Trumbull Flood Risk Map



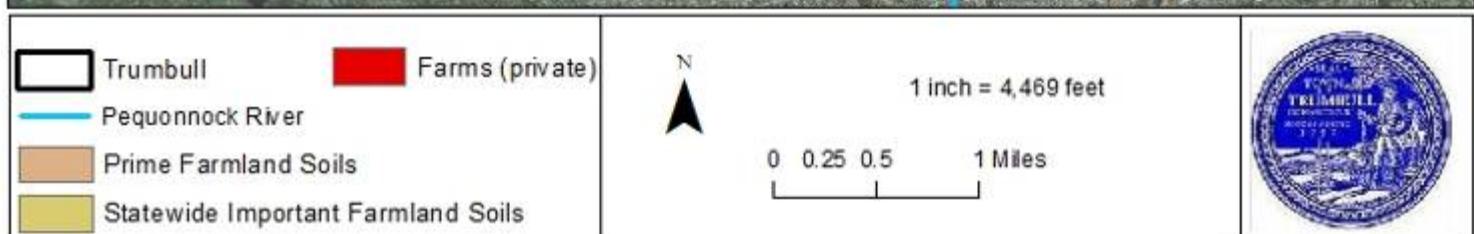
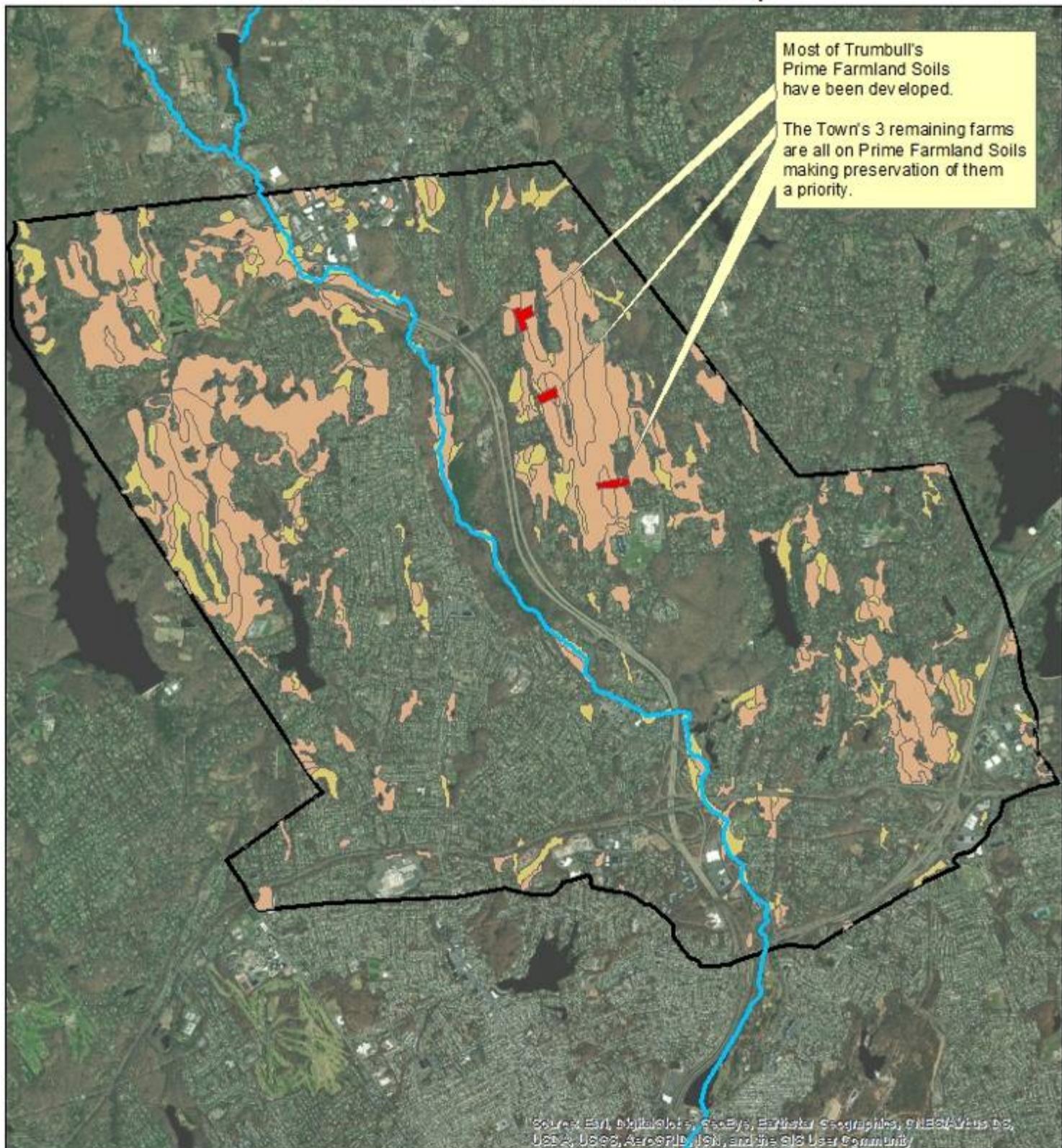
# Trumbull Bedrock Map



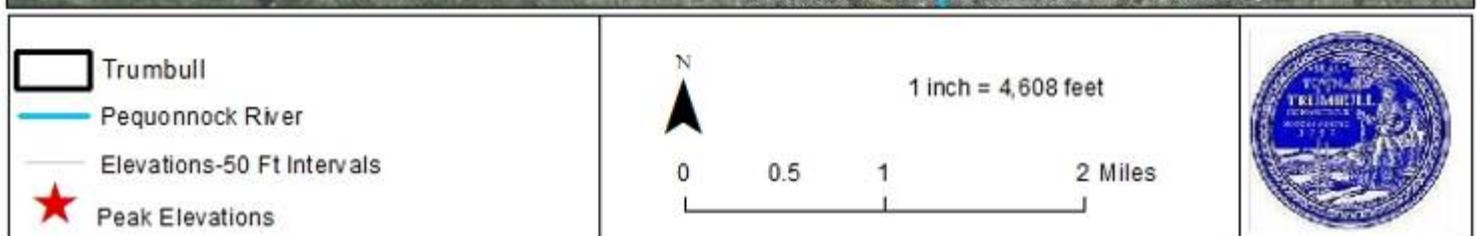
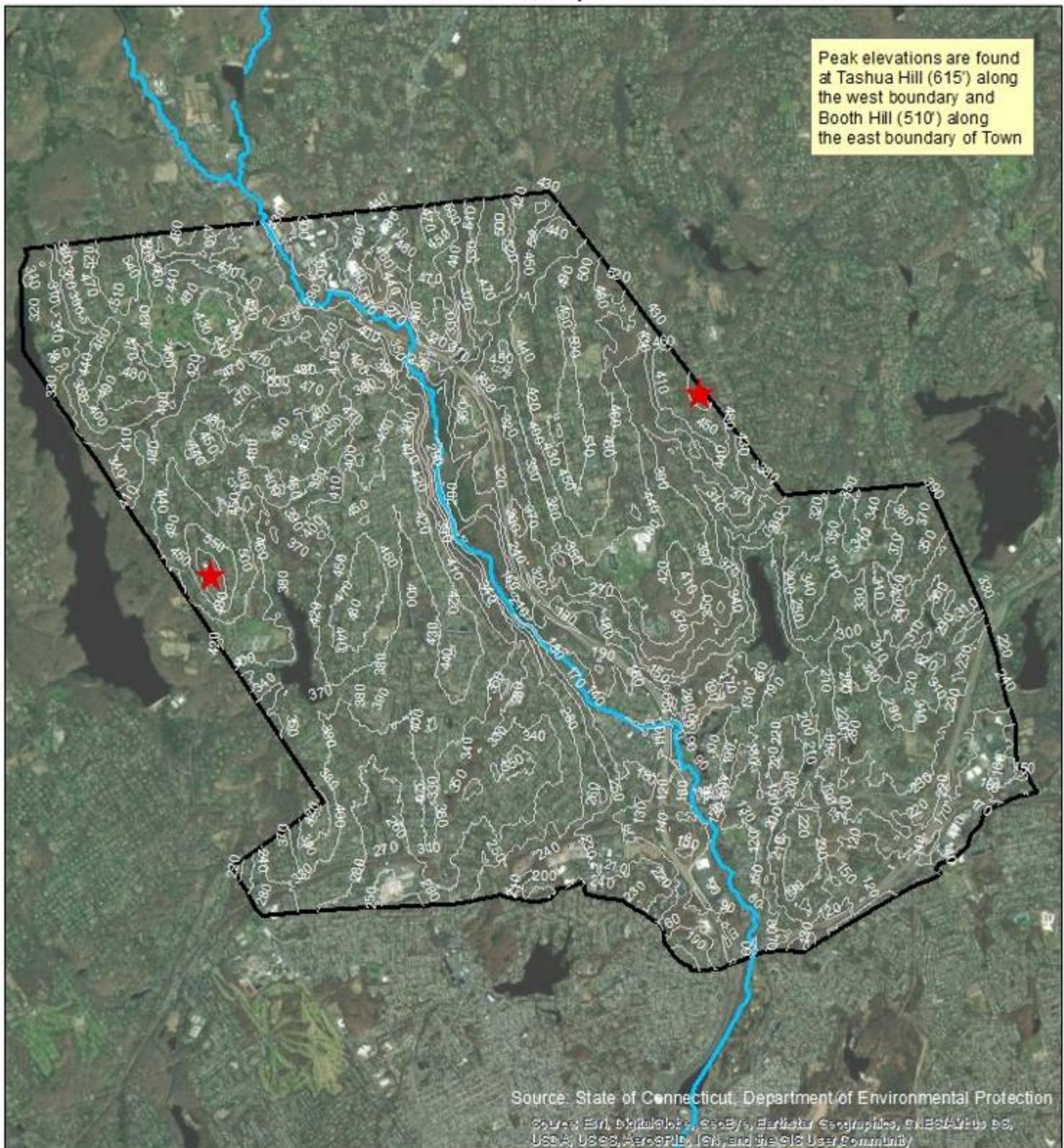
# Trumbull Soils Map



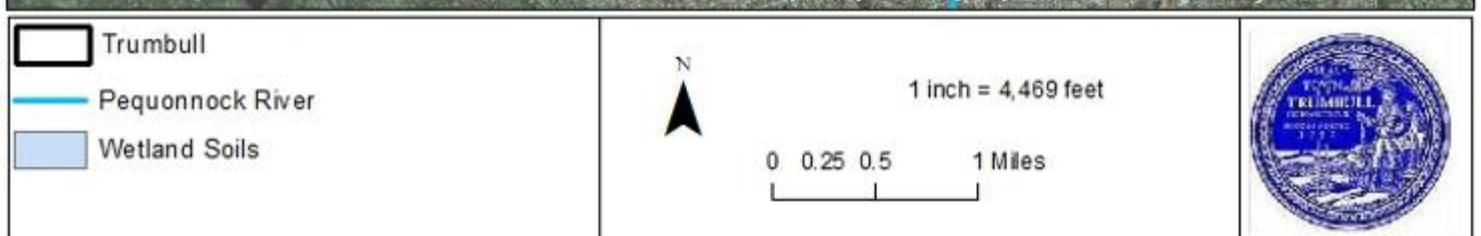
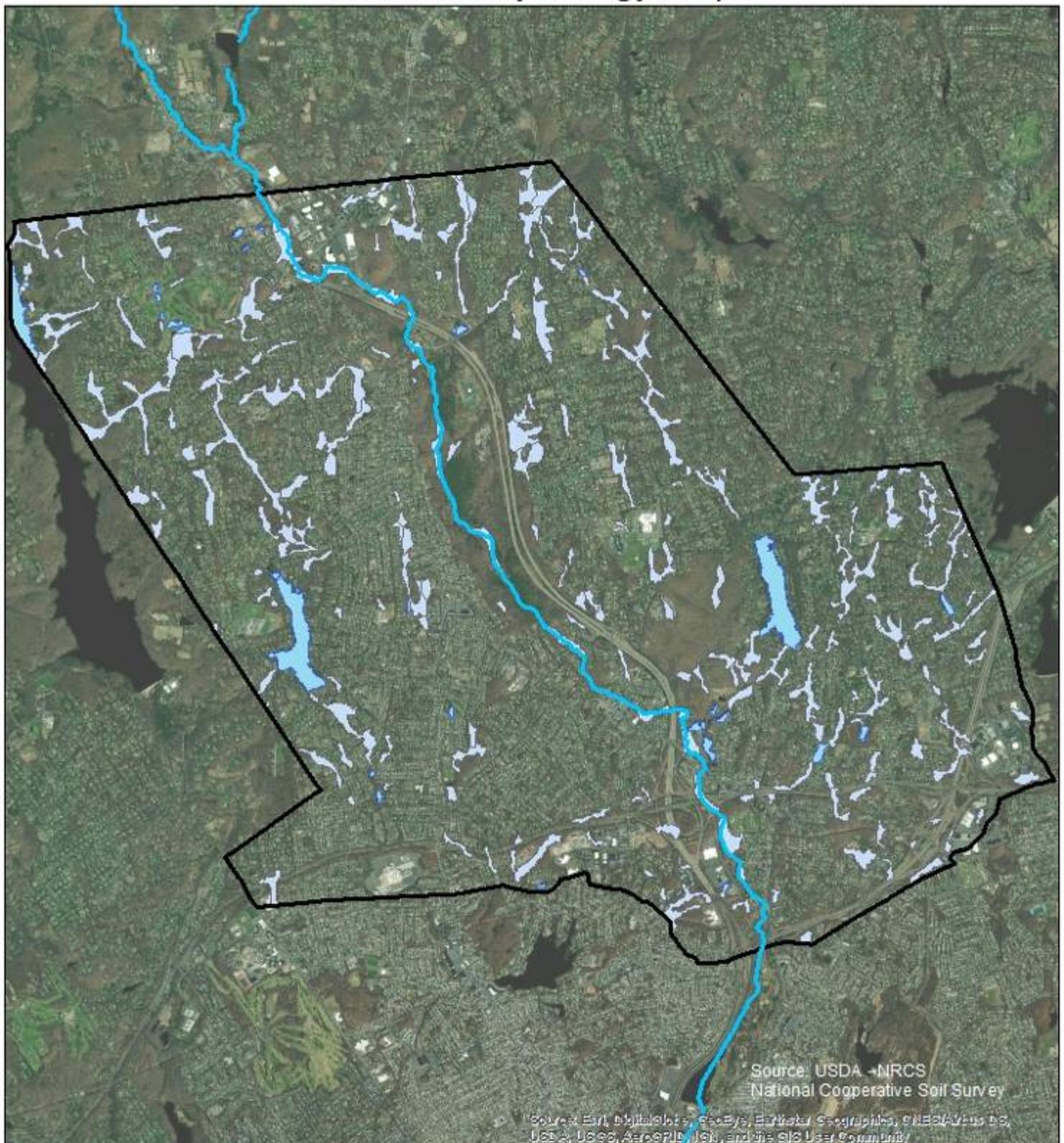
# Trumbull Farmland Soils Map



# Trumbull Elevations Map-50 Foot Intervals



# Trumbull Hydrology Map



## PROJECT GOALS

The goals of this NRI include, among others:

- Identifying important attributes and components of the Town's natural resources
- Identifying potential threats to those natural resources
- Identifying options and strategies to ameliorate those threats
- Developing a tool to proactively plan and make informed decisions regarding potential uses and activities and their impacts on natural resources
- Making recommendations concerning zoning and subdivision regulations
- Educating residents, businesses, boards, committees and other organizations about the importance of the Town's natural resources and provide actions they can take to protect and enhance the Town's natural resources

## PROJECT METHODS

The Town of Trumbull's Conservation Committee is chaired by Mary Ellen Lemay and includes Joanne Parsons, Barbara Crandall, Tim Coughlin, Kim DiCorpo, Richard Post and at the time of the study, the late Chris McCormick.

Commission members met several time during 2019 and 2020 to provide guidance for this Inventory and assisted with field studies at several town properties including Mischee Brook Park and Tashua Tree Farm. Steve Chapman, Chief Park Ranger and Dimitri Paris Parks Director also provided information.

*52 Town parks & town owned open space properties were surveyed*

The NRI project has three parts: review of existing studies, GIS based mapping of natural resources and field studies of all parks and town owned parcels larger than two acres. Town parks are listed on the town website; lists of town owned parcels were provided by Steve Chapman. A complete lists of parks and town open space parcels surveyed is found on page 576.

Previous planning and environmental studies done in Trumbull were reviewed including:

- Town of Trumbull Plan of Conservation and Development, 2014
- Pequonnock River Watershed Based Plan, 2011
- Baseline Watershed Assessment. Pequonnock River Watershed, 2010
- Pequonnock River Valley, 1988. Soil & Water Conservation District
- Trumbull Stormwater Annual Report, 2018 & 2019
- CT DEEP Pequonnock River Summary Report, 2015
- CT Bird Atlas, 1994 and eBird 2018-2020
- CT DEEP Fish Surveys
- Amphibian & Reptile Surveys-Klemens, Peabody Museum
- CT DEEP Natural Diversity Data Base

Over 100 recommendations are made in these reports. All these recommendations have just a few common themes dealing with open space protection, water quality improvement, green landscaping and land regulation that can be summarized as follow:

### OPEN SPACE:

Expanding the Town's open space and greenway system (the few remaining vacant parcels and farms should be protected before they are lost, see maps on pages 23 & 24).

Promoting greenway trails to interconnect parks and open spaces (there are many opportunities to add hiking trails throughout Trumbull.)

### WATER QUALITY:

Retrofitting surfaces to filter stormwater with vegetated buffers, swales, rain gardens, pervious pavement as was done at Long Hill Green (this can be accomplished over time as sites are repaired and maintained and as grants become available.)

Restoring streamside buffers and habitat to filter pollutants and reduce flooding as was done at Old Mine Park (adding native plants is inexpensive, adds beauty and can be done with the help of the Garden Club and Pollinator Pathway volunteers.)

## GREEN LANDSCAPING:

Educating residents, town departments, businesses and schools to create/maintain natural vegetation (since most of Trumbull is residential, educating homeowners to be good environmental stewards is important.)

Increasing tree cover by planting trees along streets, yards and businesses (adding beauty, shade, cooling, wildlife habitat, cleaner air and cleaner water.)

Creating 'Green Streets/Complete Streets' with trees and rain gardens (makes for a more beautiful, walkable Trumbull while enhancing the environment.)

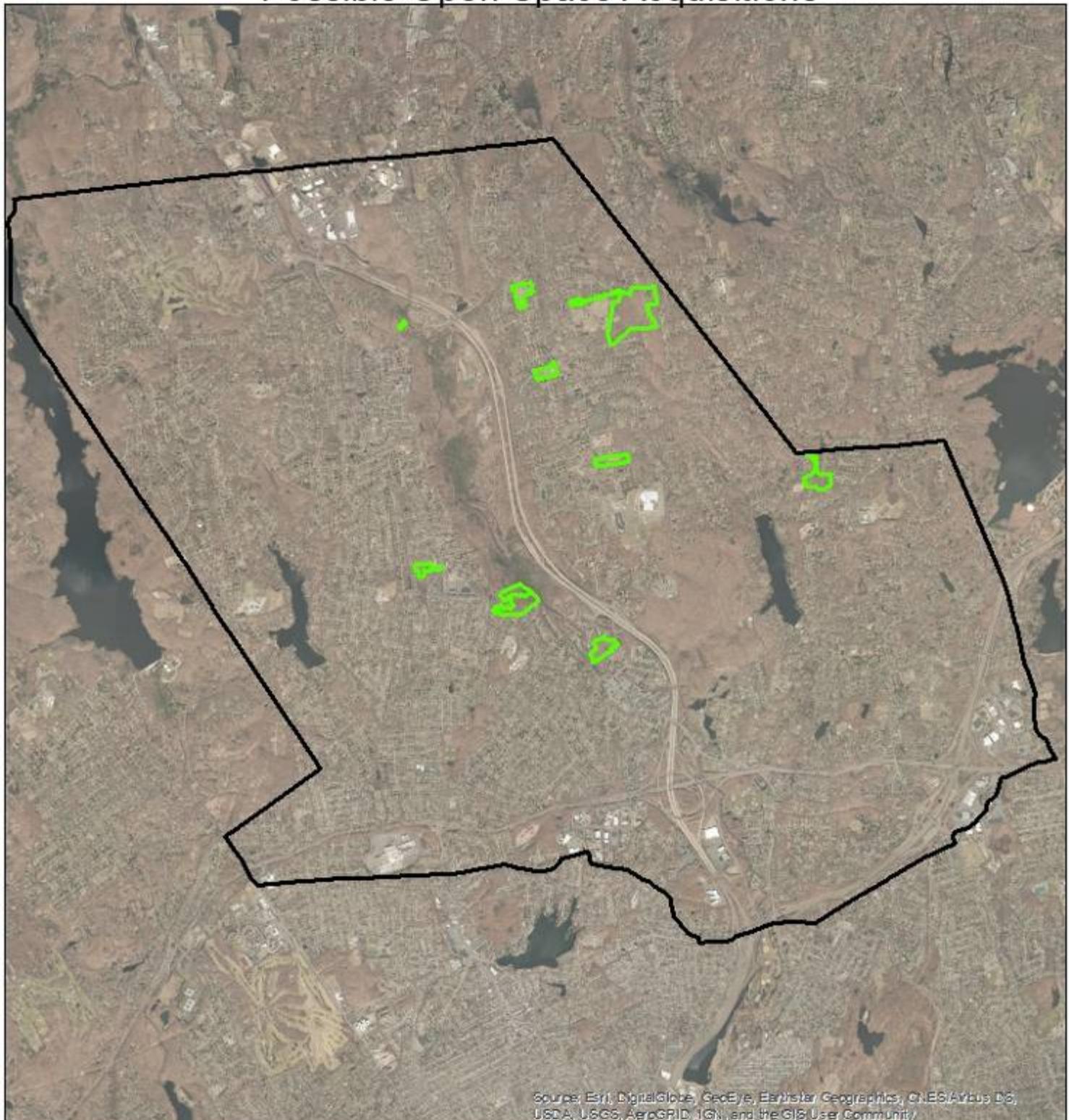
Removing invasive species (and also being sure only native plants are used in landscaping.)

## REGULATIONS & TRAINING:

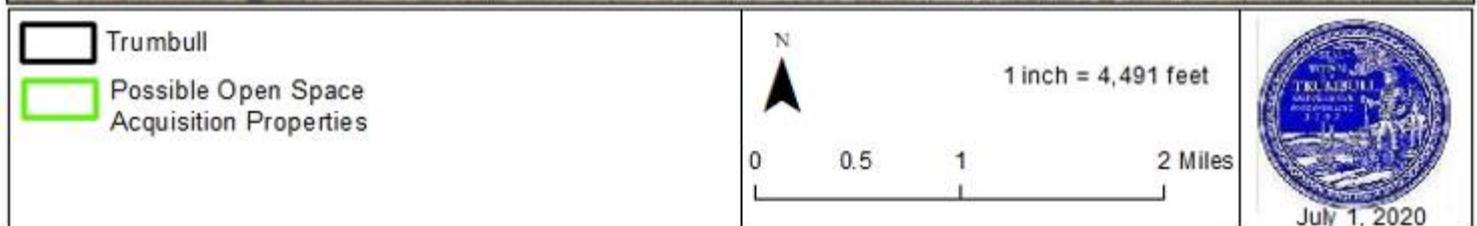
Strengthening Trumbull's land use regulations including a steep slope ordinance to retain natural vegetation on slopes over 15% and strengthening wetlands protections.

Offering additional training of town employees about Low Impact Development and erosion and sedimentation controls.

# Trumbull Open Space Map Possible Open Space Acquisitions

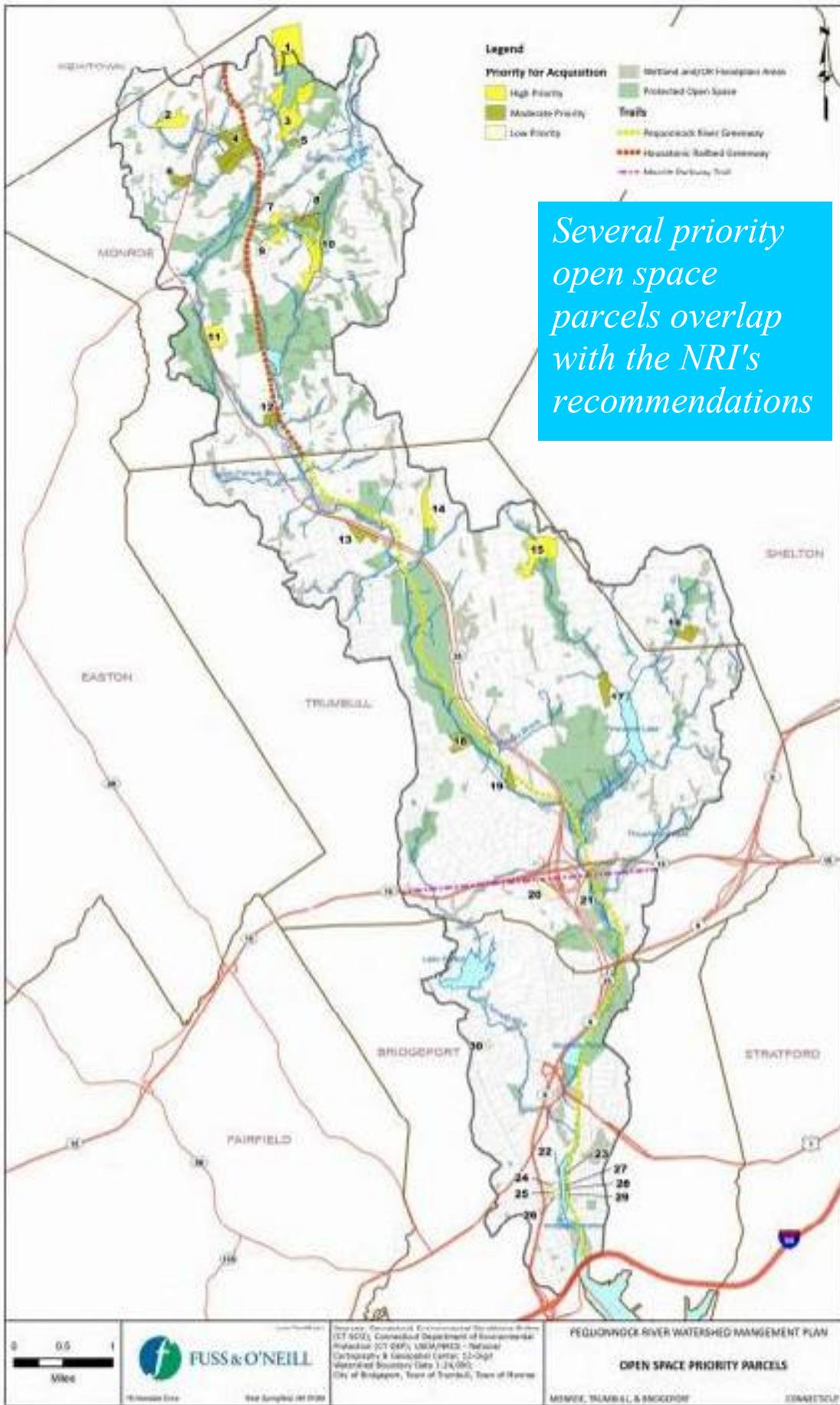


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# Open Space Priority Parcels

## Pequonnock River Watershed Plan



## PLAN OF CONSERVATION & DEVELOPMENT

Trumbull's Plan of Conservation & Development (POCD) is the Town's most important planning document. Public meetings, written questionnaires, surveys and workshops and a public hearing resulted in recommendations for the Town including:

*Trumbull's POCD calls for more open space*

Expanding the Town's open space and greenway system<sup>10</sup>

Preserving additional land as open space<sup>11</sup>

Promoting greenway trails to interconnect parks and open spaces<sup>12</sup>

Minimizing impacts from flooding by preserving open space and reducing stormwater runoff<sup>13</sup>

Work with all residents to:

Preserve and enhance natural vegetation adjacent to water resources

Plant vegetation to prevent erosion

Convert runoff to infiltration in rain gardens and similar areas to absorb nutrients and pollutants. <sup>14</sup>

Implement the Pequonnock River Watershed Based Plan's strategies which include:

Restoring stream buffers and stream habitat

Implementing stormwater retrofits to reduce stormwater pollution<sup>15</sup>

## PEQUONNOCK RIVER WATERSHED BASED PLAN, 2011

The Pequonnock River Watershed Based Plan was developed by the Pequonnock River Initiative, a partnership of the Towns of Trumbull, Monroe and Bridgeport. The Plan's Steering Committee included representatives from Trumbull's Inland Wetlands and Watercourses Commission, Conservation Commission and the Town Engineer. The Plan's strategies are endorsed in Trumbull's Plan of Conservation & Development.<sup>16</sup>

<sup>10</sup> Plan of Conservation & Development, p. 81

<sup>11</sup> Ibid, p. 81

<sup>12</sup> Ibid, P. iv

<sup>13</sup> Ibid, p. 78

<sup>14</sup> Ibid, p. 77

<sup>15</sup> Ibid, p. 70

<sup>16</sup> Ibid, p. 70

The water quality in approximately 80% of the Pequonnock River does not meet minimum standards for recreation or habitat for fish, other aquatic life and wildlife and is generally the result of urbanization within the watershed. Flooding is also common along the River and many of its tributaries.<sup>17</sup> Recommendations include:

*The Pequonnock Watershed Plan calls for stronger land use regulations*

Implement stormwater retrofits to treat stormwater at parking lots, buildings, roadways, homes<sup>18</sup>

Restore stream buffers and habitat to filter pollutants and reduce flooding<sup>19</sup>

Restore forested areas<sup>20</sup>

Protect existing forests through land acquisition and conservation easements<sup>21</sup>

Encourage reforestation of private lands by landowners<sup>22</sup>

Protect/acquire open space<sup>23</sup>

Reduce nonpoint source impacts in residential areas<sup>24</sup>

Educate residents, local government, schools and businesses about pollution prevention, backyard habitat and watershed restoration<sup>25</sup>

Remove invasive species<sup>26</sup>

Strengthen Trumbull's land use regulations, steep slope ordinances to retain natural vegetation on slopes over 15%<sup>27</sup>

Require training of building inspectors about Low Impact Development and erosion and sedimentation controls in addition to the current annual training requirements<sup>28</sup>

Create 'green streets' with trees and rain gardens to reduce stormwater flow, reduce pollution and flooding<sup>29</sup>

<sup>17</sup> Pequonnock Watershed Management Plan, 2011, p. ES-1

<sup>18</sup> Ibid, ES-5, p. 32

<sup>19</sup> Ibid, ES-5

<sup>20</sup> Ibid, p. 17

<sup>21</sup> Ibid, p. 50

<sup>22</sup> Ibid, p. 50

<sup>23</sup> Ibid, p. 17, p. 66

<sup>24</sup> Ibid, p. 17

<sup>25</sup> Ibid, p. 17, p.76-80

<sup>26</sup> Ibid, p. 51

<sup>27</sup> Ibid, p. 61, 63

<sup>28</sup> Ibid, p. 74

PEQUONNOCK RIVER WATERSHED BASELINE WATERSHED ASSESSMENT, 2010

The lower two-thirds of the river through most of Trumbull is classified as impaired by the CTDEP as it does not meet state standards for supporting a healthy macroinvertebrate community<sup>30</sup>.

The Middle Pequonnock Tributaries subwatershed (encompassing the northern 3rd of Trumbull) has a high restoration potential through urban retrofit practices including stormwater retrofits, stream restoration and reforestation.<sup>31</sup>

Most of the Pequonnock River through Trumbull does not meet minimum standards for recreation or habitat for fish and wildlife. The impairment designation for aquatic life is based on sampling of macroinvertebrates--aquatic insects that are extremely sensitive to water pollution--at Unity Park and the Route 111 bridge.<sup>32</sup> Healthy aquatic invertebrate communities require forest cover in a watershed of at least 65%.<sup>33</sup> Based on American Forests studies, a reasonable goal for suburban residential areas such as Trumbull is 50% tree cover.<sup>34</sup> The five subwatersheds in Trumbull have forest cover of between 26% - 44% (see table on following page). Planting of trees across Trumbull can increase tree cover to the lower 50% target and perhaps, over time, to the 65% target, resulting in cleaner water for not only the Pequonnock River but also for the many streams and tributaries, ponds and lakes in Trumbull.

Increasing tree cover has other benefits as well, including air pollution filtration, carbon dioxide (greenhouse gas) absorption, cooling and shading during summer months, habitat for pollinators, birds and other wildlife and natural beauty for residents.

Since most (53%) of Trumbull's land use is residential homes (see table on following page) while only 9% is commercial/industrial/institutional, reforestation, and other stormwater control practices, will be most effective if focused on Trumbull's residence and sustainable yard stewardship.<sup>35</sup>

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<sup>29</sup> Ibid, p. 98

<sup>30</sup> Pequonnock River Watershed Baseline Watershed Assessment, p. 3

<sup>31</sup> Ibid, p. 116

<sup>32</sup> Ibid, p. 68

<sup>33</sup> Ibid, p. 86

<sup>34</sup> Ibid, p. 86

<sup>35</sup> Ibid, p. 81

*Trumbull can plant more trees to reach the goal of 50% tree canopy*

Table 7-5. Comparison of Forest Cover and Tree Canopy Goals

Subwatershed Name	Percent Forest Cover in Subwatershed	American Forests Tree Canopy Goal
Upper Pequonnock River	48%	50%
Upper West Branch Pequonnock River	58%	50%
Lower West Branch Pequonnock River	54%	50%
Middle Pequonnock Tributaries	41%	50%
Middle Pequonnock River	28%	50%
Upper Booth Hill Brook	41%	50%
Lower Booth Hill Brook	44%	50%
Thrushwood Lake	26%	50%
Island Brook	12%	25%
Lower Pequonnock River	1%	15%
<b>Watershed (total)</b>	<b>36%</b>	<b>40%</b>

Source: Forest cover estimated from data provided by University of Connecticut's Center for Land Use Education and Research (CLEAR). Tree canopy goals recommended by American Forests, 2009.

These 5 sub-watersheds are located in Trumbull



*Only 1-2% of Trumbull is vacant and undeveloped*

Table 7-1. Watershed Land Use

Land Use Category	Percent of Bridgeport	Percent of Trumbull	Percent of Monroe	Watershed Total (Acres)	Percent of Watershed
Commercial	9%	2%	4%	631	3.4%
Industrial	5%	3%	5%	788	4.2%
Institutional	6%	4%	3%	671	3.6%
Mixed Use	1%	0%	0%	28	0.15%
Multi-Family	14%	2%	7%	1,023	5.5%
Open Space	8%	8%	6%	1,305	7.0%
Forest	0%	13%	20%	2,408	12.9%
Roadway	23%	10%	7%	2,116	11.4%
Single Family	25%	56%	41%	8,774	47.1%
Vacant	4%	1%	6%	578	3.1%
Water	5%	1%	1%	316	1.7%

\* Percentages are based on the Town area within the watershed.

Source: Greater Bridgeport Regional Planning Agency (GBRPA), 2000; City of Bridgeport, 2008.

CT DEEP PEQUONNOCK RIVER SUMMARY REPORT, 2015

Total percentage of impervious cover (IC) is used as a surrogate to represent the impacts associated with stormwater runoff pollution. The watershed for the impaired segment in the Pequonnock River has 14% impervious cover (IC). CT

*Impervious cover (paved areas) should be reduced to less than 12% of the town*

DEEP has determined that to limit effect of stormwater pollution an IC area of less than 12% is needed to support habitat for fish, other aquatic life and wildlife use in these waterbodies.<sup>37</sup> Reducing the effect of IC within the basin is expected to improve water quality and support attainment of aquatic life use goals.<sup>38</sup>

Methods ('Best Management Practices') to reduce the effects of IC through stormwater management include<sup>39</sup>:

- Increasing infiltration to reduce stormwater runoff
- Disconnecting impervious areas from surface waterbodies by redirecting stormwater to vegetated areas to encourage natural filtration
- Retrofitting problem areas using gravel wetlands, porous pavement and vegetated buffers to treat stormwater
- Reducing erosion and sedimentation
- Protecting vegetated riparian buffers around waterbodies
- Adding rain gardens, bioretention areas, 'green streets', green roofs and vegetated swales
- Educating citizens regarding the management of stormwater from individual properties

<sup>37</sup> Pequonnock River Summary, CT DEEP, 2015, p. 5

<sup>38</sup> Ibid, p. 6

<sup>39</sup> Ibid, p. 15-18

STORMWATER REPORTS of 2018, 2019

The Town Trumbull is regulated under the Environmental Protection Agency's Phase II National Pollutants Discharge Elimination System water program. This requires municipalities to develop a Stormwater Management Plan (SMP) to reduce the discharge of pollutants from storm sewer discharges to improve water quality. Stormwater carries oil, nutrients, bacteria and sediment and is the leading water pollutant in the United States. Stormwater pollution is a particular problem in the Pequonnock River watershed because of the high impervious cover (IC) in the area cannot absorb and filter stormwater. The Pequonnock River watershed's impaired (polluted) area has an impervious cover level of 14% while CT DEEP has determined that IC of less than 12% is required to reduce pollution to a level that can support fish and other wildlife.<sup>40</sup> Impervious cover can be reduced by reducing stormwater connections, allowing vegetation which is pervious to slow-down, absorb and filter stormwater. Green landscaping can accomplish this and with the high number of residences with lawn in Trumbull along with the many driveways and parking lots, there is a great opportunity, through planting of native plants, to reduce the harmful effects of stormwater not just on the Pequonnock River but on all the smaller streams and tributaries throughout Town.

*Trumbull has a stormwater management plan to reduce stormwater pollution*

Each town reports annually on compliance with federal stormwater requirements.

Trumbull has:

Increased testing of catch basins from 19 in 2018 to 77 in 2019 with 17 of those had very high levels of bacteria

Cleaned 10% of the Town's 8,900 catch basins with a goal of cleaning each basin once a year.

The Town disconnected one DCIA (Directly Connected Impervious Area) in 2019 out of 1,544 in Trumbull. The Environmental Protection Agency's goal is for every town to disconnect 1%, or 15 per year. Trumbull will try to do that as sites are redeveloped in the future.

<sup>40</sup> Pequonnock River Summary. CT DEEP, p 5

In 2019 impervious parking at the Long Hill Green was replaced with pervious paving.

Trained Highway Department employees once a year to identify non-stormwater discharges. Illicit discharges are non-stormwater flows that discharge into the stormwater drainage system or directly into surface waters. Examples are failing septic systems, wastewater connections to the storm drain system, and illegal dumping.

The town optimizes fertilizer applications at Unity Park and Twin Brook Parks following the 2017 Master Plans.

Such maintenance actions are expensive and CT DEEP funds projects that control nonpoint source pollution.<sup>41</sup> For a complete list of funding sources, see: Pequonnock River Watershed Based Plan, Appendix H, p. 1-7:

[https://portal.ct.gov/-/media/DEEP/water/watershed\\_management/wm\\_plans/pequonnock/pequonnockwbpfinalpdf.pdf](https://portal.ct.gov/-/media/DEEP/water/watershed_management/wm_plans/pequonnock/pequonnockwbpfinalpdf.pdf)

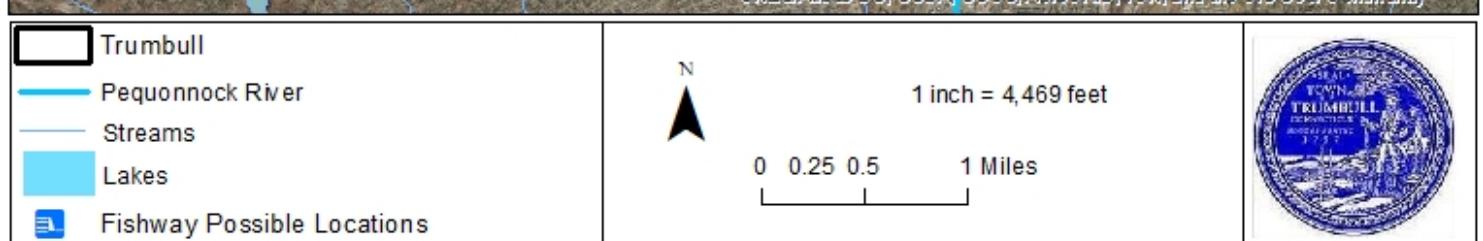
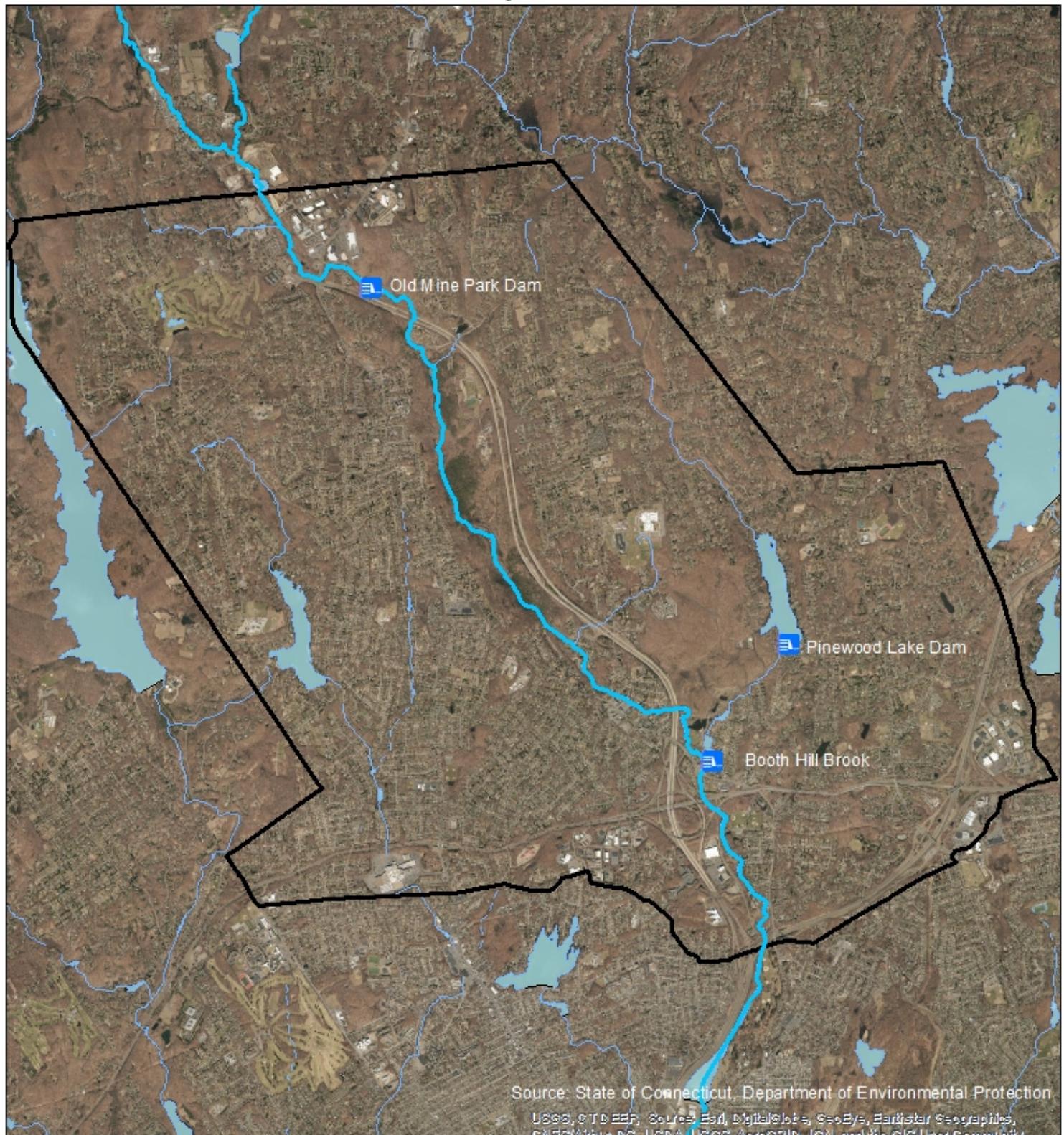
### FISH SURVEYS

Six fish surveys were done by CT DEEP between 1990 and 2007 in the Pequonnock River watershed identifying 20 species of fish including brook, brown and rainbow trout (some stocked), largemouth bass, bluegill and redbreast sunfish, eel and perch. River herring and blueback herring, both anadromous fish species, are present in the lower Pequonnock River all the way up to dams at Twin Brooks Park where a fishway is recommended by Steve Gephard, Fisheries Biologist, CT DEEP to allow them further upstream. As many as 5,000 herring pass through the fishway just south of Trumbull at Bunnell's Pond each year.

*Fishways can help restore river herring in Trumbull's rivers*

<sup>41</sup> [www.ct.gov/deep/cwp/view.asp?a=2719&q=325594&deepNav\\_GID=1654](http://www.ct.gov/deep/cwp/view.asp?a=2719&q=325594&deepNav_GID=1654)

# Trumbull Fishway Possible Locations



## BIRD SURVEYS

The Connecticut Bird Atlas of 1994 recorded birds expected to be found in the Pequonnock River Valley. eBird now records bird observations and those observations recorded in the Pequonnock River Valley Park, Twin Brooks Park, Trumbull Natre & Arts Center and Wolfe Park in nearby Monroe in 2018-2020 were compared to the earlier 1994 records (see lists on pages xx-xx).

*Many grassland, shrub land and forest-dependent birds have been lost in this area since 1994*

Birds that were no longer observed in Trumbull include grassland-habitat birds bobolink, bobwhite, meadowlark, field sparrow and kestrel; shrubland-habitat birds ruffed grouse, indigo bunting, willow flycatcher and brown thrasher and woodland-habitat birds brown creeper and broad-winged hawk. Grassland and shrubland habitat is being lost to development and succession into new forest all over the northeast, including in Trumbull. Birds that require large, unfragmented forest habitat such as the broad-winged hawk are declining as forests become more fragmented due to development. On the other hand, several species of birds are newly observed in Trumbull including Cooper's hawk that is recovering due to the banning of the pesticide DDT and pileated woodpeckers that are finding more mature trees to feed and nest in.

## AMPHIBIAN & REPTILE SURVEYS

Based on records from Michael Klemens and the Bulletin of the Peabody Museum the Pequonnock River Watershed has other Special Concern species including Jefferson salamander, wood turtle, hog nosed snake and smooth green snake in addition to the box turtle, thought the Natural Diversity Data Base does not list these other amphibians and reptiles as occurring in Trumbull. Other amphibian and reptile species of note occurring in the Watershed are spotted and marbled salamanders and wood frogs. All three of these species can only survive by breeding in vernal pools which are seasonal wetlands that dry up in summer months. Since vernal pools tend to be small in size, their protection is often overlooked, though permits are required by the Town when disturbing any area with wetland soils, including vernal pools.

*Trumbull's vernal pools should be protected for amphibians and reptiles*

## REVIEW OF EXISTING STUDIES:

Other amphibians and reptiles occurring in the Watershed include: dusky, two-lined and four-toed salamanders, gray tree frog, green and pickerel frog and worm, ring-necked, milk, water, brown and black racer snakes and the venomous copperhead snake. For a complete list see page 584.

### NATURAL DIVERSITY DATA BASE

Connecticut DEEP's Natural Diversity Data Base compiles information about the status and locations of Connecticut's rare animals and significant natural communities in order to conserve and restore state listed species and their habitats. The DEEP maps indicate two important Natural Diversity Data Base areas in Trumbull (see map on page 104), one located in the proximity of Old Mine Park and the other in Pequonnock River Valley Park. According to CT DEEP (see letter, page 105), Critical Habitats—an ash/hickory glade and a rocky summit/outcrop are located around the Old Mine Park and field surveys done for this inventory describe those areas (see Field Surveys, page 84). A "Special Concern" freshwater mussel may be found in the Pequonnock River also at Old Mine Park-exact locations are masked to protect the species. The DEEP letter also notes that a Special Concern species, the Eastern box turtle is also found in Trumbull, presumably at the Natural Diversity Data Base area shown to be in the Pequonnock River Valley Park.

The 'Special Concern' designation applies to a species that has a restricted range or habitat in Connecticut and is at population levels that are so low that they are detrimental to its conservation. The Eastern box turtle is one such species having experienced populations declines of up to 75% due to habitat loss. The box turtle requires a variety of habitats including moist forests, wetlands and riparian areas and sometime grasslands. Few areas have such variety of habitats due to development. Movement among these habitats by the box turtle often results in car collisions, also contributing to its decline. Studies



Eastern box turtle  
a species of Special Concern occurring in Trumbull

## REVIEW OF EXISTING STUDIES:

suggest that the box turtle requires a wide area-between 4 to 17 acres and that at least 25 breeding adults are required to sustain a population over time. The Pequonnock River Valley Park meets these habitat requirements with a variety of habitats over a large area-382 acres. This remarkable animal can live for up to 100 years and the protection of the Pequonnock River Valley Park appears to be essential for its survival in this area.

## CONSERVATION VALUES

For each of the 52 parcels surveyed the specific conservation values of those lands are documented beginning in Part II. Conservation values of those properties include, among others:

- Trees that provide ecosystem services including: water filtration, groundwater recharge, storm water regulation, flood control, drought moderation, erosion prevention, air pollutant absorption, carbon dioxide absorption, carbon sequestration, temperature moderation-cooling in summer and warming in winter-nutrient cycling and food, cover, roosting and nesting habitat for beneficial insects, other plants, birds, amphibians and reptiles, certain mammals and other wildlife.
- Mature interior forests that provide habitat for many wildlife species in decline including scarlet tanagers, wood thrush, pewees, ovenbirds, redstarts, veery, red-eyed vireos, black and white and worm-eating warblers and blue-gray gnatcatchers--all observed in Trumbull. Mast trees found in these forests (oaks and hickories with acorns and nuts) provide food for birds and other wildlife, especially during winter.
- Hemlock trees that provide valuable shelter for birds and other wildlife through the winter when other trees have lost their leaves in addition to providing nesting, feeding and roosting sites during the rest of the year. Hemlocks grow in Trumbull's shaded hillsides and stream embankments where their year-round foliage protects streams and wetlands from erosion and their roots absorb and filter water.
- Wetlands that remove pollutants and sediments, protecting water in Trumbull's streams, lakes, reservoirs and watersheds. Wetlands also control flooding by slowing, absorbing, and storing storm water. Wetlands provide habitat and travel corridors for wildlife and support unique plant communities.
- Vernal Pools that are critical for species observed in Trumbull that depend on these temporary, season pools including wood frogs and spotted, Jefferson, marbled and four-toed salamanders. Box turtles, also observed in Trumbull, will use vernal pools for resting and foraging.
- Riparian zones which are transition zones between streams and wetlands and dry upland areas. Riparian zones have high levels of biodiversity including the many

## CONSERVATION VALUES:

species that move between land and water. Riparian vegetation reduces erosion and water pollution, produces shade, regulates water temperature and provides food, cover, shelter and breeding habitat for wildlife.

- Floodplain forests in the Pequonnock River Valley Park and elsewhere that filter pollutants, control erosion, and absorb and hold back water--preventing catastrophic flooding. Floodplains' vegetated corridors provide plant and wildlife habitat and allow wildlife to move from one habitat to another.
- Shrub land that is a rare and declining habitat and that provides habitat for a number of declining birds and small mammals including catbirds, blue-winged warblers, chestnut-sided warblers, yellow warblers and eastern towhees-all of which have been observed in Trumbull.
- Open fields, meadows and grasslands that are increasingly rare and many of the species that depend on this habitat are in decline including birds as well as many butterflies, moths, bees, wasps, damsel and dragonflies and other beneficial insects. Birds observed in Trumbull's fields include bluebirds, goldfinch, barn and tree swallows and kingbirds.
- Habitat corridors or 'greenways' that provide swaths of forest and other habitats that allow for movement of birds, reptiles, amphibians, mammals and other wildlife among different habitats, expanding their range and allowing them to forage and reproduce.
- Trumbull's conserved areas provide nesting sites and stop over sites for migrating birds, the majority of which are in steep decline and dependent on these conserved areas.
- Trumbull's conserved areas support pollination that is critical to most of the plant species in Trumbull. Pollen from wind-pollinated plants moves short distances while pollen from insect-pollinated plants travels over long distances.
- Trumbull's conserved areas allow for passive recreation including hiking, wildlife viewing, reflection and meditation.
- Trumbull's conserved areas encourage nature, ecology, biology and natural history study by serving as outdoor laboratories and living classrooms.
- Trumbull's conserved areas have scenic vistas for Trumbull residents and others.

WATER POLLUTION:

The Federal Clean Water Act declared as a national goal "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water wherever attainable". The Act requires states to identify waters not meeting water quality standards and develop plans to bring water bodies into compliance with water quality standards. Water quality in approximately 80% of the Pequonnock River, including most portions of the River that run through Trumbull, do not meet minimum standards for recreation or habitat for fish and wildlife. Poor water quality is generally the result of urbanization within the watershed and effects not just the Pequonnock River and Long Island Sound but also Trumbull's streams, ponds and wetlands and all of Trumbull's residents.<sup>42</sup> The ponded portion of the Pequonnock River at Old Mine Park, for example, was once a popular swimming place but has been closed to swimming since the 1980's due to high levels of bacteria.

FLOODING:

Flooding is common along the Pequonnock River and many of its tributaries. Flooding of the Pequonnock River is exacerbated by the steep topography and limited floodplain storage in the river valley<sup>43</sup>.

A 2007 study examined the possibility of replacing the former dam on the Pequonnock River upstream of the confluence of the Pequonnock River and Twin Brooks to control flooding at Twin Brooks Park. Previous FEMA studies investigated the benefits of additional flood control structures on the Pequonnock River, though implementation of such projects is not anticipated in the near future.<sup>44</sup>

With climate change predicted to increase precipitation by +10% by 2050 and with no structural flood control measures planned, flooding in Trumbull will increase unless measures are taken to reduce the amount of impervious surface in the Town.<sup>45</sup>

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<sup>42</sup> Pequonnock River Watershed Based Plan 2011, p. ES-1

<sup>43</sup> Pequonnock River Watershed Baseline Watershed Assessment, p. 3

<sup>44</sup> Pequonnock River Watershed Baseline Watershed Assessment, p. 50

<sup>45</sup> NYSERDA "Climate Risk Information 2013" June 2013, p 5

DEVELOPMENT/CLEARING:

Although Trumbull appears to be nearly completely built-out and developed, there are still areas that can be developed, resulting in additional impervious surfaces which contribute to increased pollution from storm water runoff and increased flooding. Incremental clearing along hillsides, streams, ponds and wetlands by residents is also a threat.

Clearing of vegetation should not take place on steep slopes of 15% or greater and should not be done within 100 feet of wetlands and watercourses, with a vegetated buffer of more than 100 feet being recommended whenever possible.



Clearing-especially on steep slopes such as this should be avoided. Clearing results in erosion with silt and sediments flowing into nearby watercourses, in this case, into Farrars Brook at the Trumbull Nature & Arts Center

LACK OF LAND REGULATION/ENFORCEMENT

Trumbull lacks a steep slope ordinance and the Pequonnock River Watershed Based Plan recommends the passing of one. Enforcement of existing regulations can also be an issue either due to lack of staff and/or lack of adequate training. Several instances of wetland violations and building on steep slopes were observed during field surveys. Lack of fines may also be an issue. Many towns levy fines for violators which then are used to pay for the staff time required to enforce and recommend remediation of violations. Fines under the state's Wetlands and Watercourse Law can range up to \$1,000 per offense. Currently the Town's Wetland and Watercourse law imposes a fee three times the amount that would have been due had the application not been after-the-fact.

INVASIVE PLANTS AND PLANT DISEASES:

As mentioned above, climate change is resulting in higher temperatures that are stressing trees, many of which are already stressed from lack of growing space along Trumbull's streets and parking lots. In addition to higher temperatures, a number of plant diseases threaten Trumbull's trees including Dutch elm disease, ash wilts, emerald ash borer, oak wilts and hemlock wooly adelgid-a major threat to the hemlocks in the Pequonnock River Valley Park.

Invasive plants are well-established in Fairfield County and Trumbull. Invasive plants out-compete native plants which native insects-including butterflies, bees and other pollinators-depend upon. This reduction in biodiversity makes Trumbull's vegetated areas less resilient to other stresses. Deer have become an invasive species in the northeast and by eating young vegetation they have eliminated the understory in the Town's parks and preserves which reduces wildlife habitat and prevents the forests from regenerating new trees and shrubs as the forest canopy ages and dies.

LOSS OF BIODIVERSITY:

In the last two decades Trumbull and the surrounding vicinity have lost birds including kestrels, indigo buntings, brown creepers and broad-winged hawks that previously occurred here. Their loss serves as an indicator of broader losses of other less obvious wildlife species. On the other hand, those species that can tolerate human interaction and suburban development have increased, including deer and even coyote.

Biodiversity refers to the number of different wildlife species in an area. Higher biodiversity means more diverse species. A more natural, functioning environment with a high level of biodiversity is more stable, more sustainable, healthier and more resilient to stresses. With the loss of biodiversity, many obvious, direct impacts on humans occur. One example is an increasing mosquito population due to the loss of amphibians that eat mosquito eggs and the loss of bats that eat adult mosquitoes. Another example is the increase in tick populations related to the explosion of deer which in turn is due to the loss of deer predators and the fragmentation of forests. Other examples of the perils of biodiversity loss

## THREATS:

include the reduction in pollinating bees, butterflies and other insects that we depend upon for one third of our food crops. These are the most obvious and direct impacts on humans of biodiversity loss. Given our limited knowledge of nature and nature's complexity, it is easy to imagine many more harmful effects of biodiversity loss. Since we don't know the exact role that each species plays in maintaining a healthy environment, scientists stress the 'precautionary principle' which posits that if the impacts of the loss of pieces of the environment cannot be fully known, then as many pieces (species) as possible should be protected and preserved.

As Trumbull continues to be developed and built out it is important to prevent the further loss of biodiversity by balancing development with conservation and using smart growth techniques that can not only prevent environmental degradation but if done correctly can reverse negative impacts and improve Trumbull's environment.

## LITTER:

A final threat to natural resources in Trumbull is litter. Litter is a common complaint among citizens because it is so visible. In addition to being unsightly, litter can pollute water, clog storm water basins and watercourses and endanger wildlife that consumes plastics or becomes entangled in litter that is not biodegradable. The Town's maintenance workers regularly collect litter and litter clean-up events take place each year during Earth Day.

## CLIMATE CHANGE:

Climate change is a threat to Trumbull, particularly the higher levels of rainfall and the more extreme rain events that will contribute to greater flooding and increased pollution from storm water runoff. Additionally, higher temperatures will stress trees and other vegetation that are critical in absorbing storm water, storing water and preventing flooding.

*Precipitation will be 10% greater and temperatures 5 degrees warmer by 2050*

Estimates are that precipitation will be +10% greater by 2050 (average of estimates) and that temperatures in the region will rise an additional 5 degrees Fahrenheit by 2050.<sup>46</sup>

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<sup>46</sup> NYSERDA "Climate Risk Information 2013" June 2013. Pg. 5

## PART II: DESCRIPTION OF NATURAL RESOURCES & CONSERVATION VALUES

The combined inputs from Conservation Commission meetings, the above mentioned planning documents, natural resource studies and GIS mapping of Trumbull's natural resources along with a consideration of threats to natural resources led this NRI to concentrate field surveys on Trumbull's town parks and the remaining undeveloped parcels in town focusing on potential open space acquisition, improving existing hiking trails and creating new ones, connecting forested blocks into greenways, assessing water quality and flooding issues, stream and wetland function, stormwater issues and plant and wildlife protection.

### **FIELD SURVEYS**

Field surveys of Town parks (16) and town-owned open space parcels (36) were undertaken during the growing seasons of 2019 and 2020. Maps were made for each parcel including maps of: location, satellite photograph, elevations, topography, streams and wetland soils, ecological communities and surrounding open space.

## PEQUONNOCK RIVER VALLEY PARK

MARCH 5, APRIL 10, 21 & 22, MAY 9, MAY 12 and June 1, 2020 Field Surveys

**CONSERVATION VALUES** include: Forests including mature interior forests, hemlock groves covering 50% of the Park, extensive hiking trails, sections of the Pequonnock River, wetlands and vernal pools, riparian zones, floodplain forests, seeps, shrubland, meadows and grasslands, rare orchids, greenways connecting to Old Mine Park and Indian Ledge Park, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for nature study and scenic vistas for River Trail walkers and bikers and for neighbors and from Route 25 and other roads, several prehistoric sites .

The 382-acre Pequonnock River Valley Park/Pequonnock River Valley Wildlife Area lies in the center of Trumbull (see Location Map page 25) and was purchased in 1989 by the Town of Trumbull and the State of Connecticut from the Bridgeport Hydraulic Company for \$9.275 million. The Park is maintained by the Town of Trumbull and as a state Wildlife Area, hunting is allowed from October through December. The 105-acre town-owned Indian Ledge Park is adjacent and to the northeast of the Pequonnock River Valley Park (see Surrounding Open Space Map page 31). The old bed of the Housatonic Railroad, which stopped running in 1935, is now a 2.6 mile long portion of the Pequonnock River Trail running north and south through the Park along the west side of the Pequonnock River. Access and parking to the Pequonnock River Trail is found to the north at Whitney Avenue and to the south at Tait Road.

The Park has at least five potential prehistoric sites, including an encampment occupied between 7,000 and 8,000 years ago by Paleo-American hunter gatherers and the first permanent settlements established by the Pequonnock native Americans of the Paugussett Nation around 3,000 years ago. There are also four historical sites associated with the early industrial development of Trumbull including Radcliffe's Textile Factory, the Old



Waterfall 1.7 miles north of Rail Trail entrance

Trumbull Ice House and the Long Hill Sawmill ruins. The site is a significant area in the state because it is virtually untouched and the record through time is still intact.<sup>47</sup>

The Park is surrounded by densely developed homes and businesses on the west side and by Indian Ledge Park and Route 25 on the east side (see Satellite Photograph Map page 26). At least four large, privately owned parcels are adjacent or close to the Park including the 6.7 acre 'Hardy parcel', the 15.9 acre 'Penkoff parcel', the 10 acre parcel located at #147 Daniels Farm Road and the 4 acre parcel located at #5 Old Mill Road. All four parcels are listed as "Priority for Acquisition" parcels in the Pequonnock River Watershed Management Plan (see Open Space Priority Parcels Map page 24 [Part I] and Surrounding Open Space Map page 31). Three other oversized lots on Birdsall Avenue could be partially protected with conservation easements purchased or donated by the current owners, protecting the fragile hillside. The Town of Trumbull also owns the 7.6 acre 'Shelton Terrace' parcels and the 5 acre Tait Road parcels both of which abut the Park and are apparently not at risk of development since they are town-owned.

The Pequonnock River flows for 2.2 miles through the center of the Park. Numerous tributaries flow into the River from the east and west including North Farrars Brook, Hedgehog Creek, Belden Brook and Booth Hill Brook. Many more seeps flow down the hillsides forming in some cases vernal pools that provide habitat for wildlife. These tributaries and seeps flow into the Pequonnock River which has extensive wetlands totaling approximately 45 acres on both sides of the River (see Streams & Wetlands Map page 29). The surrounding 382-acre forest buffers and filters the Pequonnock River which is especially important as much of the Pequonnock River is polluted. The River's amounts of Total Suspended Solids exceed regulatory guidelines<sup>48</sup> and approximately 80% of the River does not meet minimum standards for recreation or habitat for fish, other aquatic life, and wildlife (see Pequonnock River Water Pollution Map page 13 [Part I]). These "impaired" or polluted reaches of the Pequonnock River include the lower two-thirds of the river through most of Trumbull and Bridgeport, which does not meet standards for supporting a healthy macroinvertebrate community due to unknown causes and sources.<sup>49</sup> Sampling of

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<sup>47</sup> Report for Pequonnock River Valley. King's Mark Environmental Review Team, Soil and Water Conservation District, Wallingford, CT, October, 1988. p. vi.

<sup>48</sup> Pequonnock River Watershed Assessment, 2010, page 141.

<sup>49</sup> Pequonnock River Watershed Based Plan Executive Summary p. 1.

macroinvertebrates via kick net collection methods was performed by CTDEP in 1997, 2000 and 2007 at Unity Park and at the Route 111 bridge. For all sampling events at both stations, the calculated MMI (and index of macroinvertebrate insects that reflects water quality) falls below the target value of 50, indicating the basis of the aquatic life impairment designation.

The poor water quality in these impaired segments of the Pequonnock River is generally the result of historical land use and urbanization within the watershed. Unspecified urban stormwater, contaminated sediments, and other nonpoint sources are suspected contributors to the impairments.

The river valley is surrounded by steep cliffs, particularly on the west side of the river where elevations drop from 360 feet above sea level to 160 feet (see Elevations Map page 27 and Topographic Map page 28). These rock outcrops are quite scenic but in some cases, building up to the edge of the hillsides has accelerated erosion, creating gullies of stormwater that eventually flows into the Pequonnock River (see Stormwater Erosion Map, pages 24). Elevations on the east side of the river fall from 300 feet above sea level to 160 feet at the river.



Rock outcrop along west side of River Trail  
1.15 miles north of Rail Trail entrance



Resulting erosion at River Trail  
1.8 miles north of Rail Train entrance

## ECOLOGICAL COMMUNITIES:

The Pequonnock River divides the Park into two quite different habitats though hemlock forests are the dominant vegetative type on both sides. The west side consists of approximately 40% mature hemlock forest located in the lower elevations close to the river. Younger white ash-sugar maple woods make up approximately 35% of the west side and are located on the higher elevations found along the western boundary close to residential neighborhoods. The older hemlock forest was most likely never farmed and only logged a few times. The younger ash-sugar maple woods was farmed as can be judged by its younger age and by the many stone walls running west to east across the land. The remainder of the west side is made up of wetlands close to the river and moist tulip forests also located by the river.

The east side is also dominated by mature hemlock forests which make up approximately 50% of the east side's acreage. An unusual community-open wet meadow-covers 20% of the east side close to the river in the central part of the Park. This habitat was once flooded by the old Trumbull Reservoir until the dam was removed in 1935. Trees here are medium height willow, gray birch, crabapple and flowering dogwoods that allow sunlight to penetrate to the shrub and ground layer. Dense shrubs including alder, sweet pepperbush, silky dogwood and blueberry grow here. Wetlands bordering several tributaries make up about 10% of the east side. A young stand of red maple and black birch make up another 10%, growing on the hillside just west of Route 25. The young age of this stand indicates that it was recently cleared, perhaps when the highway was built in the late 1970's or from past sand and gravel excavation activities here. Tulip stands constitute nearly 10% of the east side in low, moist areas. A small but interesting oak ridge lies along the Park's eastern boundary by the town's composting site. This rocky site has oak trees and mountain laurel shrubs along with a few somewhat rare azalea shrubs. Rock polypody grows on the rock outcrops while sarsaparilla is found on the ground layer along with dwarf ginseng and trout lily--a somewhat rare and beautiful micro-habitat.

The Pequonnock River Valley Park has the following ecological communities (see Ecological Communities Map page 30 and Plant Inventory page 33):

## HEMLOCK GROVES: 175 acres

Approximately 175 acres, nearly 50% of the Park, is forested with hemlock groves.

As is the case across the eastern United States, these hemlocks are suffering from wooly adelgid infection caused by the non-native aphid that first appeared in Connecticut in 1992. Many of the park's hemlocks are already dead or thinning while a few small hemlocks are still healthy. The dying and dead hemlocks appear to be a constant maintenance issue since they block and threaten the hiking trails.

Eastern hemlocks are one of the most ecologically important tree species in the northeastern forests and especially critical for the park since they comprise so much of the tree canopy. They are extremely shade tolerant, grow in riparian (stream) areas, keep stream temperatures cool, prevent stream bank erosion, purify storm water and provide thermal protection in the winter for wildlife in addition to providing nesting, feeding and roosting sites during the rest of the year. Hemlock trees provide food (through their seed cones) and habitat for more than 90 species of birds and many other types of wildlife.

As of 2020 wooly adelgid infestations appear to be slowing and hemlocks are recovering at least temporarily. Experts at the Connecticut Agricultural Experiment Station



Hemlocks thinning due to wooly adelgid infestations



Wooly adelgid killed these 8 large hemlocks lying across trail

and Cornell University attribute this to either weather (cold winter spells coupled with wet summers) or to the successful release of a biocontrol insect, *Sasajiscymnus tsugae*. Cornell scientists recommend the continued use of the systemic insecticides imidacloprid and dinotefuran<sup>50</sup> while Connecticut scientists believe such insecticides may do more harm than good.<sup>51</sup> The best practice would therefore be to monitor the health of the park's hemlocks and if they decline consider treatment.

The park's hemlock groves are found mainly along the rocky sections close to the river. Plants found here include, in addition to hemlock: red, black and white oak trees; beech, yellow birch, sassafras and ironwood saplings in the understory; mountain laurel, witch hazel, maple-leaf viburnum and low-bush blueberry shrubs and a ground layer that includes Canada mayflower, spinulose wood fern, Christmas fern, white wood aster, lion's foot, partridge berry, wintergreen, shinleaf, Pennsylvania sedge and rarely, pink lady slippers. Invasive burning bush is very common along the eastern edge of the Rail Trail. Since this area is readily accessible, it may be possible to remove and prevent the reintroduction of burning bush here which would allow other ground layer plants to grow, preventing further soil erosion.



Beech tree with beech bark disease caused by scale insect and fungi. Beech leaf disease is another new threat to beech trees in the park.

#### WHITE ASH-SUGAR MAPLE WOODS: 50 acres

This plant community is found at the park's highest elevations along the western boundaries on slopes close to the neighborhoods. Trees are medium-sized, mixed deciduous varieties including ash, sugar maple, red maple, black birch, black cherry, elm and bitternut,

<sup>50</sup> Cornell University Cooperative Extension Forest Entomologist Mark Whitmore, personal communication

<sup>51</sup> Connecticut Agricultural Experiment Station Research Entomologist Carol Cheah, personal communication

mockernut and shagbark hickory. The understory is very sparse due to deer predation but includes in some areas sugar maple, beech, black birch and hemlock saplings and seedlings. Plants on the ground layer include Solomon's seal, white wood aster, lady's thumb, trillium, trout lily, Christmas, New York, lady, cinnamon, hay-scented and marsh fern and in moist pockets, jewelweed and skunk cabbage.

Many of the ash trees are dying or have fallen to the ground due to either ash wilts disease and/or emerald ash borer infestations. Unfortunately no treatments are available. As the ash die and the canopy opens to more sunlight, invasive Japanese barberry is thriving. Other invasive plants are common here, spreading from the nearby neighborhoods and include: honeysuckle, jetbead, Siebold viburnum, burning bush, forsythia, wineberry, garlic mustard, onion grass and many bittersweet vines that threaten the trees. Since invasive plants will continually be imported from nearby neighborhood lawns, removing invasives this close to homes is not practical. Native plants found here include witch hazel, blueberry, and spicebush shrubs.



Many ash are dying from disease and are being cut down



Dying ash open canopy allowing invasive barberry to grow in sunlight

## OPEN WET MEADOW: 45 acres

An unusual community--an open wet meadow--is found at the site of the former reservoir and has medium height willow, gray birch, red cedar, crabapple, aspen and flowering dogwood trees along with alder, sweet pepperbush, silky dogwood and blueberry shrubs. Other trees include red maple, black cherry and young white pines. In dry open areas little bluestem, sweet fern, meadowsweet, dewberry, hawkweed, cinquefoil and goldenrod grow while in wet areas sensitive and cinnamon fern, skunk cabbage, false hellebore, Jack in the pulpit and invasive phragmites are common.



Open wet meadow at old reservoir site

## WETLANDS, STREAMS, FLOODPLAINS, SEEPS, VERNAL POOLS & PONDS: 45 acres

Wetlands and other watercourses total approximately 45 acres on both sides of the River. The park's wetlands provide important ecological functions including removing pollutants and sediments--an important function since the Pequonnock River has amounts of Total Suspended Solids that exceed regulatory guidelines.<sup>52</sup> The park's extensive wetlands also control flooding--especially important in Trumbull which has seen increased flooding in recent years as climate change increases the frequency and severity of rain events. Wetlands also provide habitats for insects including pollinators, reptiles and amphibians, birds and other wildlife. The park's wetlands typically have a tree canopy of tulip, red maple, ash, tupelo,



<sup>52</sup> Pequonnock River Watershed Assessment, 2010, page 141.

sycamore, shagbark hickory, black walnut, ironwood and yellow birch trees, a shrub layer dominated by spicebush along with silky dogwood, alder, winterberry and blueberry shrubs and a ground layer of skunk cabbage, false hellebore, sensitive and marsh fern, blue cohosh, meadow rue, jewelweed and Jack-in-the-pulpit plants.

Over 20 streams and countless other seeps flow from the hillsides into the Pequonnock River. The streams are typically shaded by hemlock, yellow birch and spice bush shrubs. Many of the park's secondary paths follow stream banks with stone foot bridges allowing walkers to cross the streams. The forested seeps go largely unnoticed but provide important ecological services in the park. Seeps are fed by groundwater which stays a constant 45-50 degrees Fahrenheit throughout the year. In springtime, the constant supply of relatively warmer water typically results in early spring development of grasses and sedges around seeps. This early spring vegetation is an important source of food for emerging insects and other pollinators. The mild temperatures of seeps help to also moderate the temperature of the water into which the seep flows--keeping temperatures from becoming too warm in summer months. This creates a more hospitable environment for insects, reptiles, amphibians-including dusky and northern two-lined salamanders-trout and other cool-water fish and other wildlife.

Vernal pools are found throughout the park. A vernal (seasonal) pool is a wetland filled by winter snow melt and spring rain. Vernal pools typically dry up by late summer and therefore do not support fish. Certain species, termed 'obligate' vernal pool species because they must use a vernal pool for various parts of their life cycle, have evolved to use these wetlands where they are protected from fish predation. Wood frogs, fairy shrimp and spotted, blue-spotted, Jefferson, marbled and four-toed salamanders are obligate vernal pool species in Connecticut. Spotted turtles and box turtles will also use vernal pools for resting and foraging. Male wood frogs, *Rana sylvatica*, were heard loudly calling in vernal pools along the Pequonnock River 2.25 miles north of the Rail Trail entrance on March 5, 2020--confirmation that wood frogs breed here and that this section of the park has biologically viable vernal pools.



Vernal pool 2.25 miles north of Rail Trail entrance



Vernal pool east side of Pequonnock River

At least 5 ponds are found in the park. These permanent bodies of water are surrounded by red maple, ash and elm trees, spice bush and sweet pepperbush and blueberry shrubs. Invasive phragmites grows in some of the ponds and threatens to spread, choking out native plants.



Twin ponds at park's southwest boundary

TULIP FOREST: 30 acres

The tulip forest is found in moist soils all along the western side of the park. In addition to low-lying areas, floodplains and wetlands close to the river, tulip trees are also found in wet hillsides where seeps and small streams flow. In addition to large tulip trees, a wide variety of other tree species grow here including red maple, sugar maple, black birch, yellow birch, ash, elm, willow, cottonwood and sycamore. The moist soil supports many spicebush, silky dogwood and common alder shrubs as well as invasive Japanese barberry. The ground layer includes Canada mayflower, white wood asters, jewelweed and many spectacular spring ephemerals such as trout lily, purple trillium, wood anemone, rue anemone, toothwort, dwarf ginseng, blue cohosh and bloodroot (see Spring Ephemeral Wildflower pictures pages 13-14).



Enormous tulip trees along the Pequonnock River

OAK-HEMLOCK FOREST: 25 acres

This plant community is found alongside the Park's hemlock groves, typically on slightly higher and drier elevations and includes, in addition to hemlock trees, white oaks, black oaks, chestnut oaks and red oaks in the canopy along with beech and sugar maple saplings and occasional American chestnut sprouts in the understory. The dominant shrub is mountain laurel, witch hazel, blueberry and maple leaf viburnum shrubs. The ground layer has spinulose wood fern, hay-scented, New York and Christmas fern, white wood aster, Canada mayflower, sarsaparilla, partridgeberry, wintergreen, ground pine and Pennsylvania sedge.

YOUNG RED MAPLE-BLACK BIRCH: 20 acres

This young stand of red maple and black birch grow on the hillside between the fire road and Route 25. The low height of the trees, the lack of tree species diversity and the lack of understory or ground layer indicate that this area was recently cleared and is in the process of regenerating. Although not as interesting as the other ecological communities, young woods such as these are habitat for species such as ruffed grouse and woodcock not found in other habitats. Ruffed grouse are not found in this region, though one was found dead in the road on the Merritt Parkway just south of year in 2020.

THE PARK IS FILLED WITH SPRING Ephemeral FLOWERS IN APRIL & MAY



Trillium along side River Trail



Bloodroot alongside River Trail



Trout lily alongside River Trail



Wood anemone and Dwarf ginseng along Pequonnock River





Sessile bellwort flower



Canada mayflower



Pink lady slipper colony

# PEQUONNOCK RIVER VALLEY PARK

## PHYSICAL FEATURES:



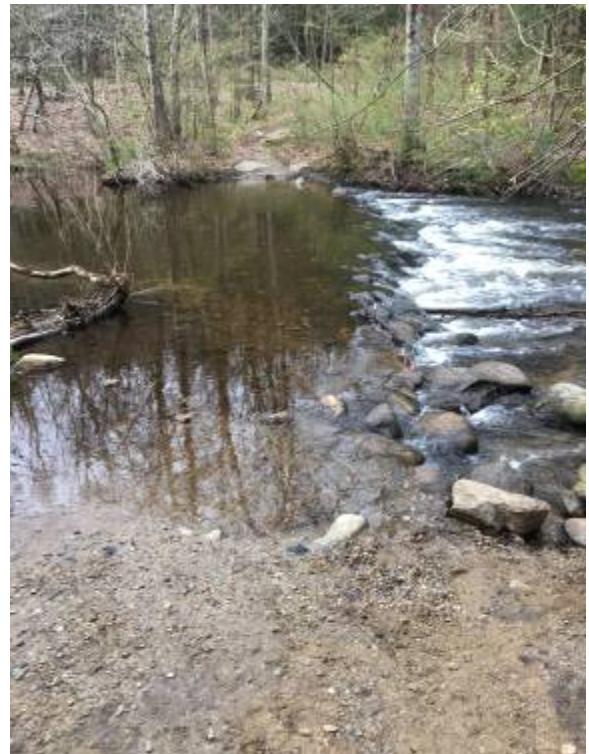
Waterfalls  
1.7 miles north of Rail Trail entrance crossing  
1 mile north of Rail Trail entrance



Radcliffe Wool and Glove Lining factory ruins  
south of Whitney Avenue



Old ice house foundation  
1.25 miles north of Rail Trail entrance crossing  
1 mile north of Rail Trail entrance



Old dam and river crossing  
1 mile north of Rail Trail entrance

## PEQUONNOCK RIVER VALLEY PARK



Waterfall just south of Whitney Avenue, east of Pequonnock River



'Crevise' along white trail



Rock outcropping  
1.15 miles north of Rail Trail entrance crossing  
1 mile north of Rail Trail entrance

# Pequonnock River Valley Park Physical Features Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<p>Pequonnock River Valley Park</p> <p>Waterfall</p> <p>Cliff</p> <p>Stone Walls</p> <p>Stone Footbridges</p> <p>Small Dam</p>	<p>River Trail</p> <p>Ice House Foundation</p> <p>Pequonnock River</p> <p>Streams</p>	<p>N</p> <p>1 inch = 1,351 feet</p> <p>0 0.125 0.25 0.5 Miles</p>	 <p>April 21, 2020</p>
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## PEQUONNOCK RIVER VALLEY PARK

### PEQUONNOCK RIVER VALLEY PARK INVENTORY APRIL 21 & 22, 2020 Stormwater Field Assessments

The Pequonnock River Watershed Assessment report of 2010 recommends the Middle Pequonnock Tributaries sub-watershed, which the Pequonnock River Valley Park partially lies within, for field assessments including stream corridor assessments, neighborhood source assessments, stormwater hot spot confirmation, storm drain assessments and upland stormwater retrofit candidates<sup>53</sup>. This sub-watershed was selected because it has some of the highest loading rates of Total Suspended Solids in the entire watershed and therefore has some of the highest restoration potential, according to the report<sup>54</sup>.

Building on steep slopes along western edge of the park is causing serve erosion, adding silt and other pollutants to the Pequonnock River, contributing to the high Total Suspended Solids counts in sections of the Pequonnock River. The Pequonnock River Watershed Bases Plan, 2011 lists several recommended actions for the Town of Trumbull including updating land use regulations to:

- Retain and maintain a maximum amount of natural vegetation on slopes over 15%,
- Prevent clear-cutting or tree removal beyond the established limits of disturbance,
- Consider developing a steep slope ordinance and hillside protection ordinance.

The Plan also recommends that Municipal Building Inspectors be required to take additional training since "Existing training programs often do not address stormwater, LID, green infrastructure or erosion and sedimentation control methods. Building inspectors in each watershed municipality should be required to receive regular training on these topics"<sup>55</sup>.

As part of the Natural Resource Inventory, in addition to identifying ecological communities, stormwater issues are also being identified. The following numbered photographs of stormwater issues correspond to the numbered locations on the map on page 24.

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<sup>53</sup> Pequonnock River Watershed Assessment, 2010, page 116-117

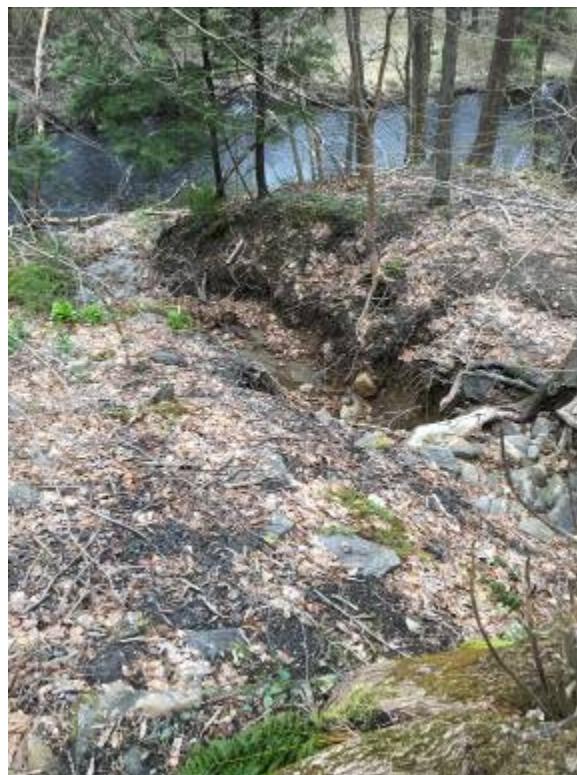
<sup>54</sup> Pequonnock River Watershed Based Plan, 2011, pages 61-63.

<sup>55</sup> Pequonnock River Watershed Based Plan, 2011, page 74.

## PEQUONNOCK RIVER VALLEY PARK



1. Ditch eroded from construction above at Rexview Circle 0.15 miles north of River Trail entrance



2. Eroded drainage ditch flowing into River 1.32 miles north of entrance

## PEQUONNOCK RIVER VALLEY PARK



3. Hillside giving way behind home along Lakewood Drive & Briarcroft Avenue



3. Eroded drainage ditch below hillside along Lakewood Drive & Briarcroft Avenue

## PEQUONNOCK RIVER VALLEY PARK



4. Hillside giving way behind home along Lakewood Drive



5. Eroded drainage ditch below hillside along Lakewood Drive

## PEQUONNOCK RIVER VALLEY PARK



6. Mudslide behind home along Placid Street



7. Dirt pile behind 50 Calhoun Avenue



7. Runoff onto approximately 0.25 cleared acres on Park land



8. Hillside giving way behind 64 Calhoun Avenue

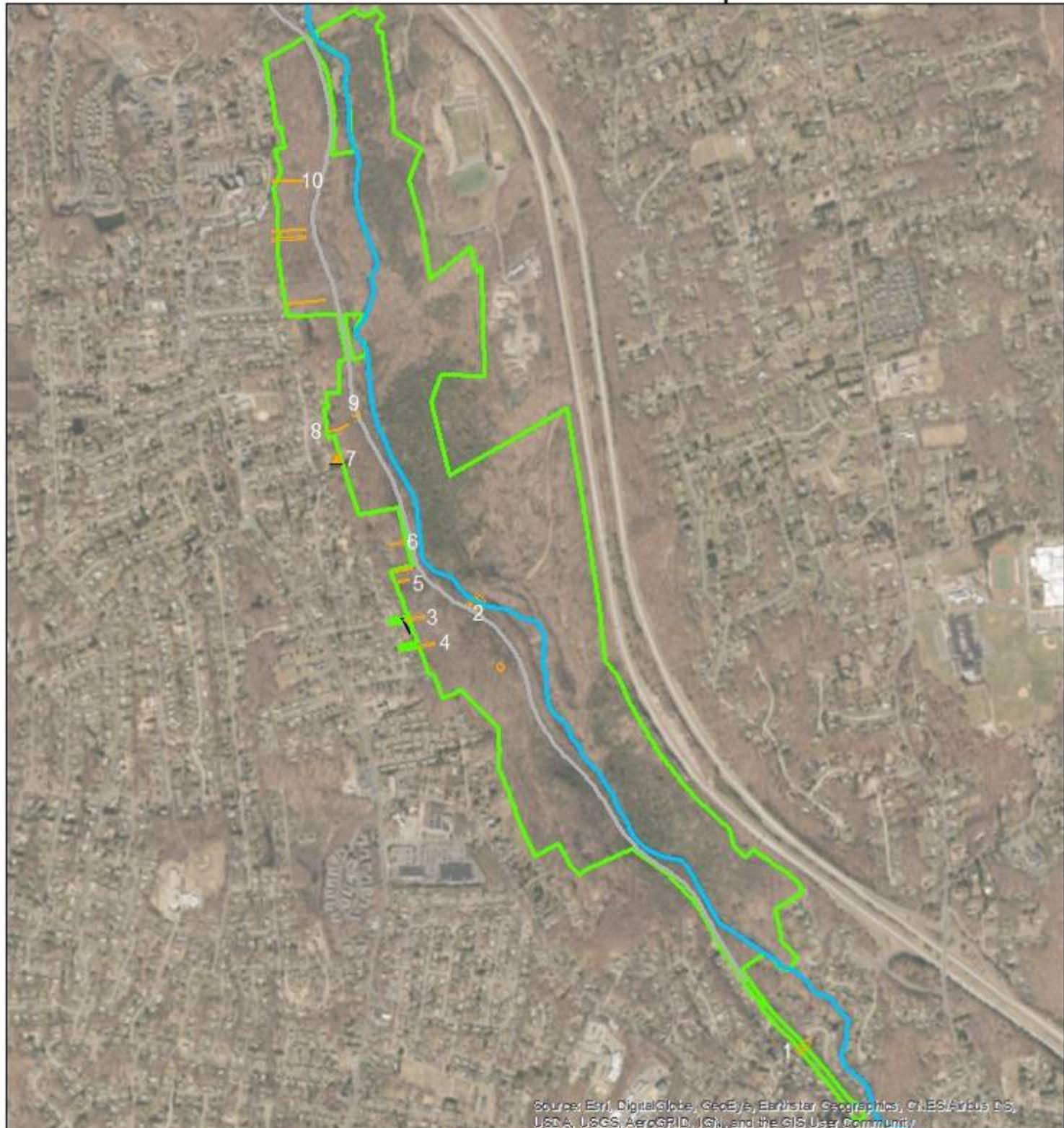


8. Eroded drainage ditch below hillside at Calhoun Avenue



9. Resulting erosion from Calhoun Avenue at River Trail 1.8 miles north of entrance

# Pequonnock River Valley Park Stormwater Erosion Map



Pequonnock River Valley Park
Stormwater Erosion Hot Spots Numbers correspond with photos
Dirt Pile
Pequonnock River

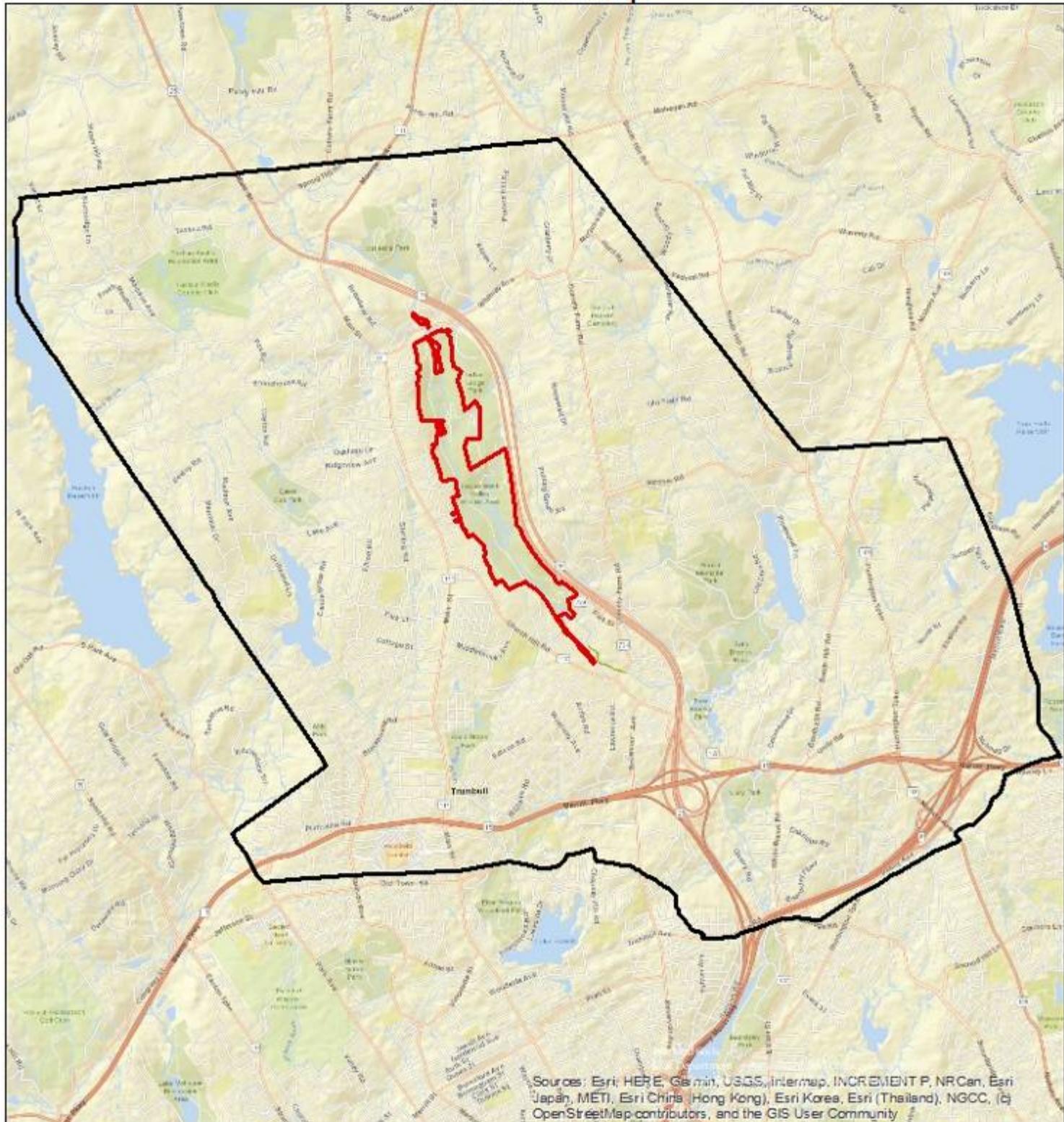


1 inch = 1,351 feet  
0 0.125 0.25 0.5 Miles

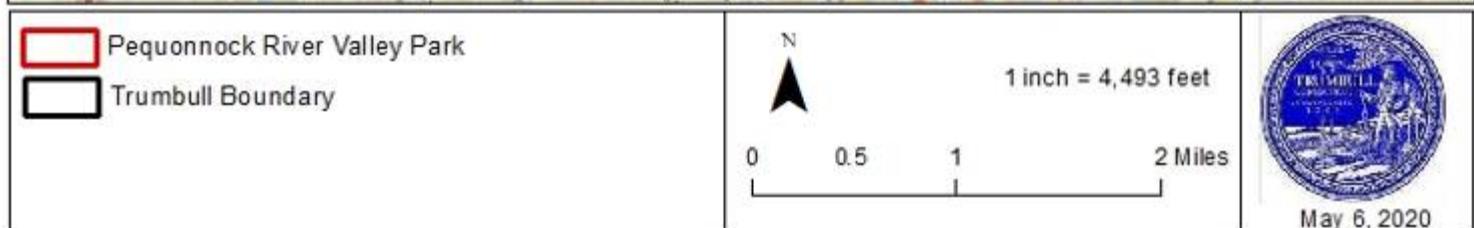


April 21, 2020

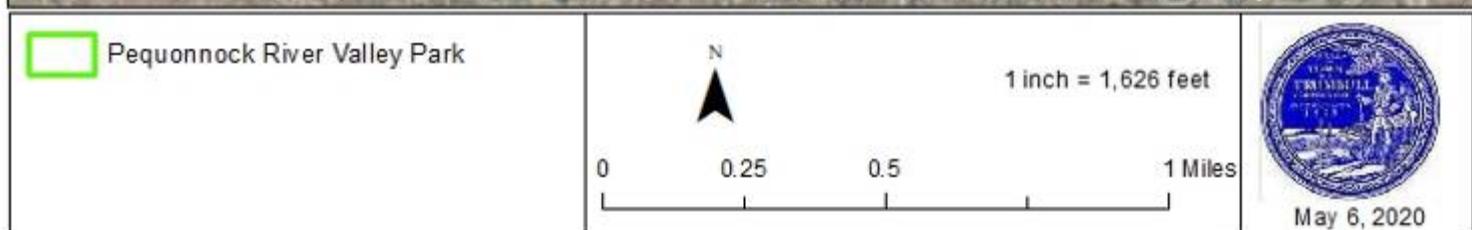
# Pequonnock River Valley Park Location Map



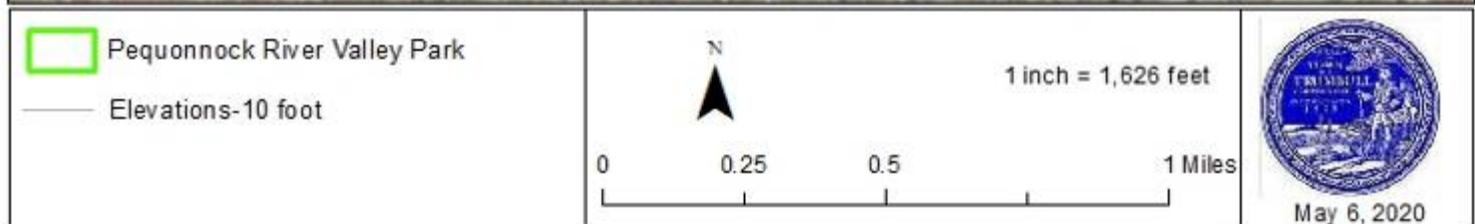
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



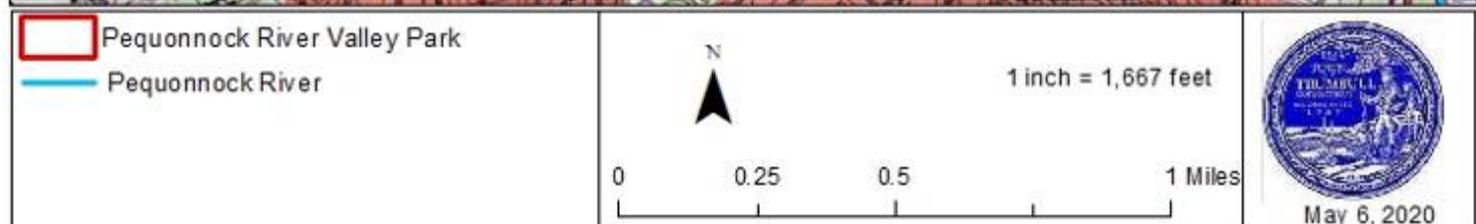
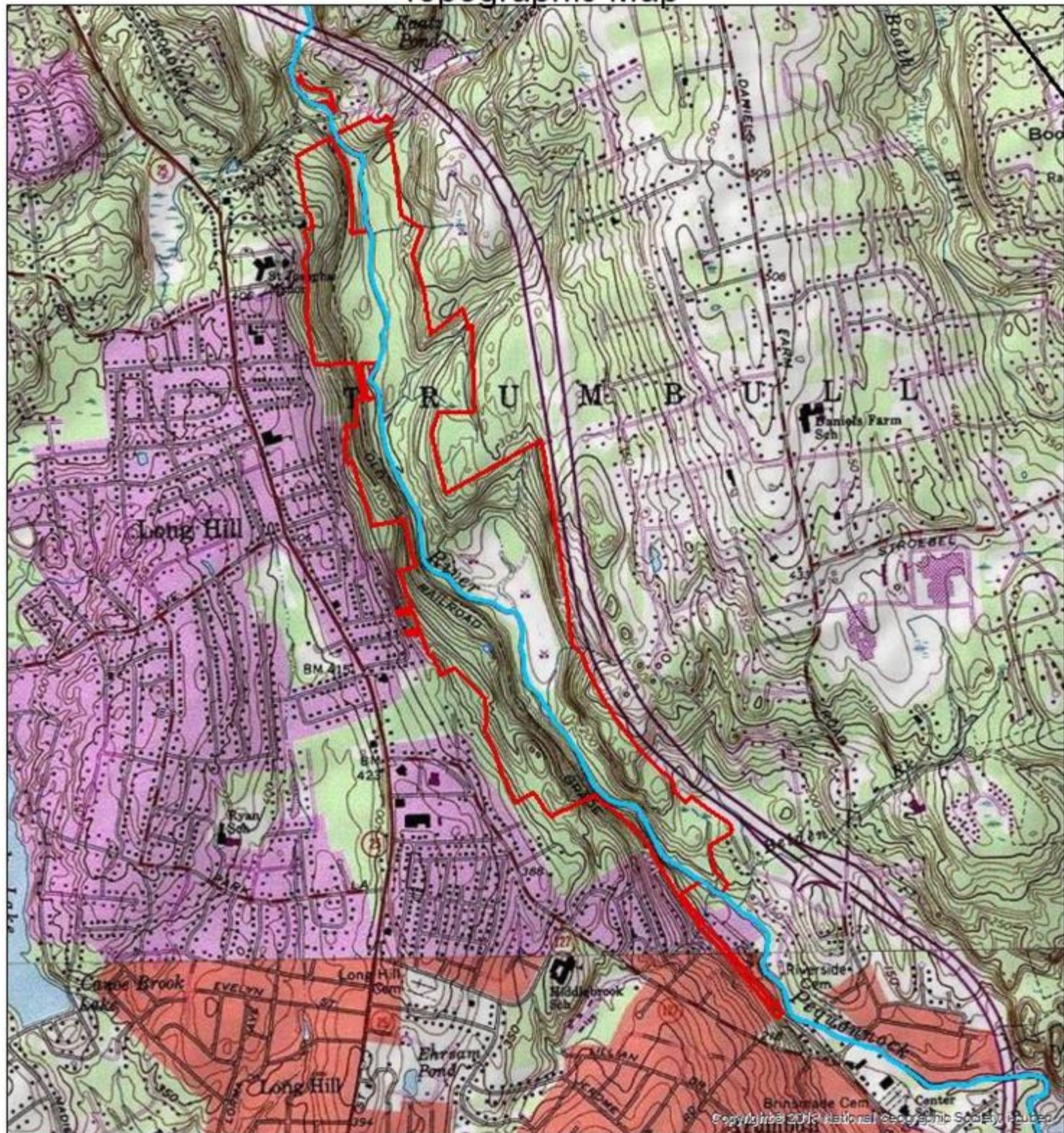
# Pequonnock River Valley Park Satellite Photograph Map



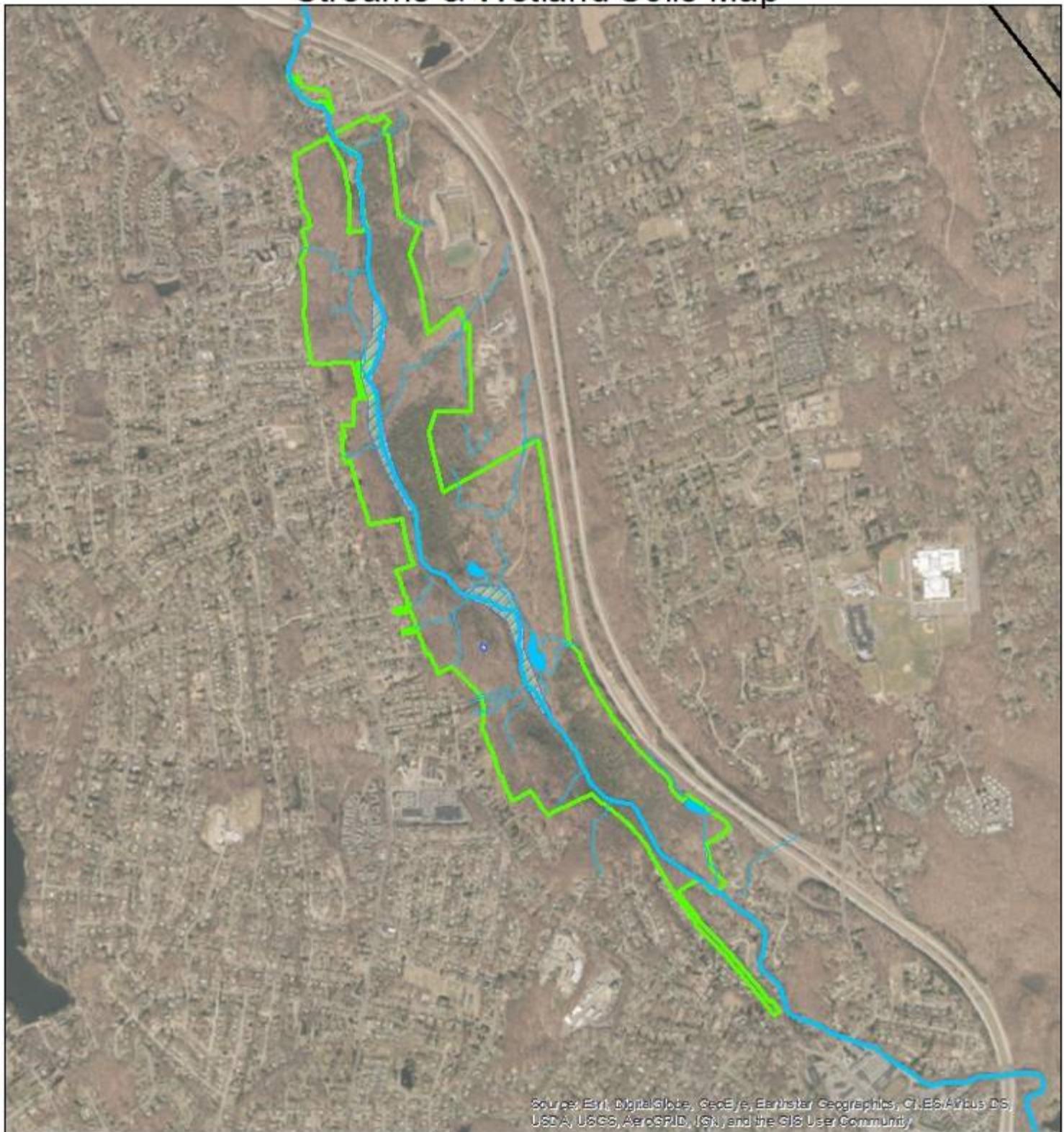
# Pequonnock River Valley Park Elevations Map



# Pequonnock River Valley Park Topographic Map

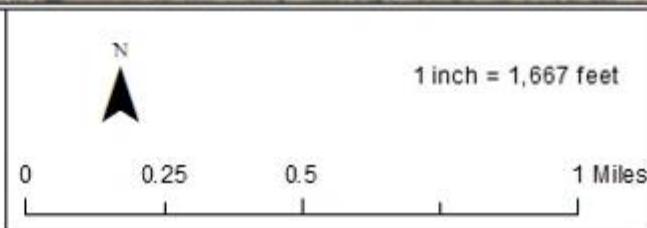


# Pequonnock River Valley Park Streams & Wetland Soils Map

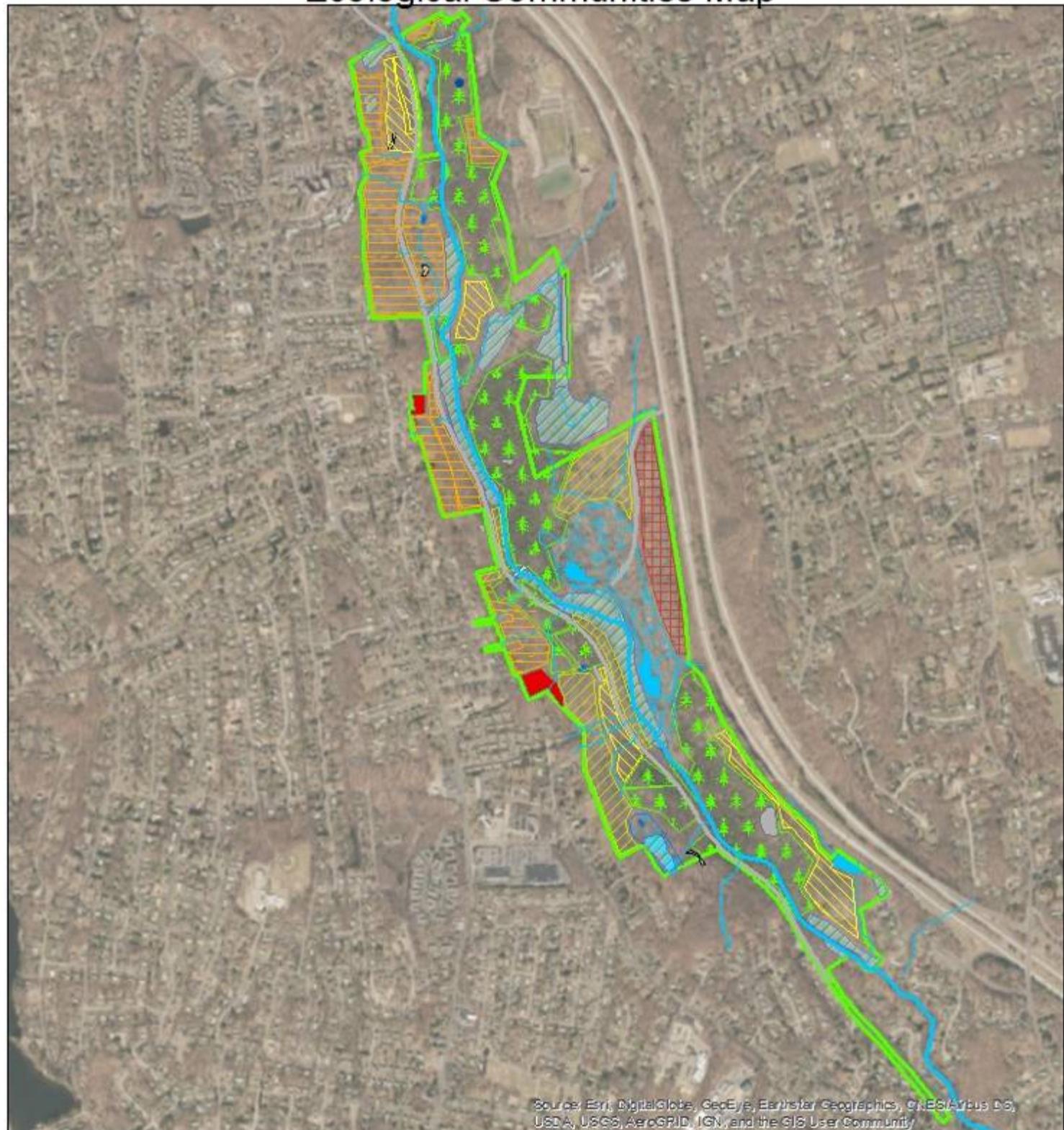


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

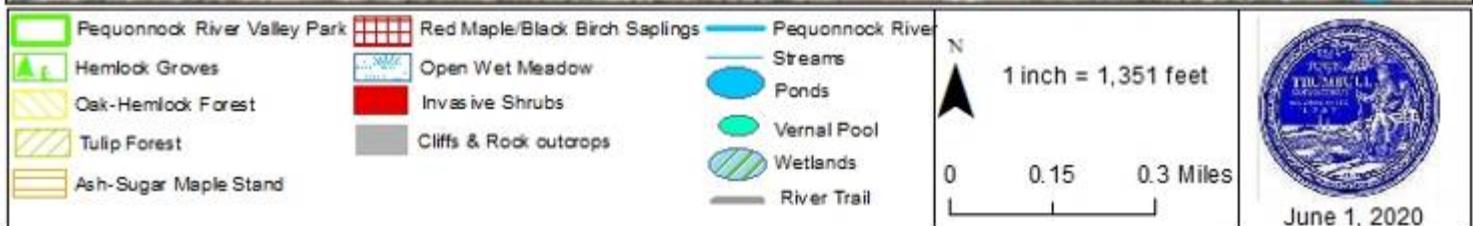
Pequonnock River Valley Park
Pequonnock River
Streams
Wetland Soils
Ponds



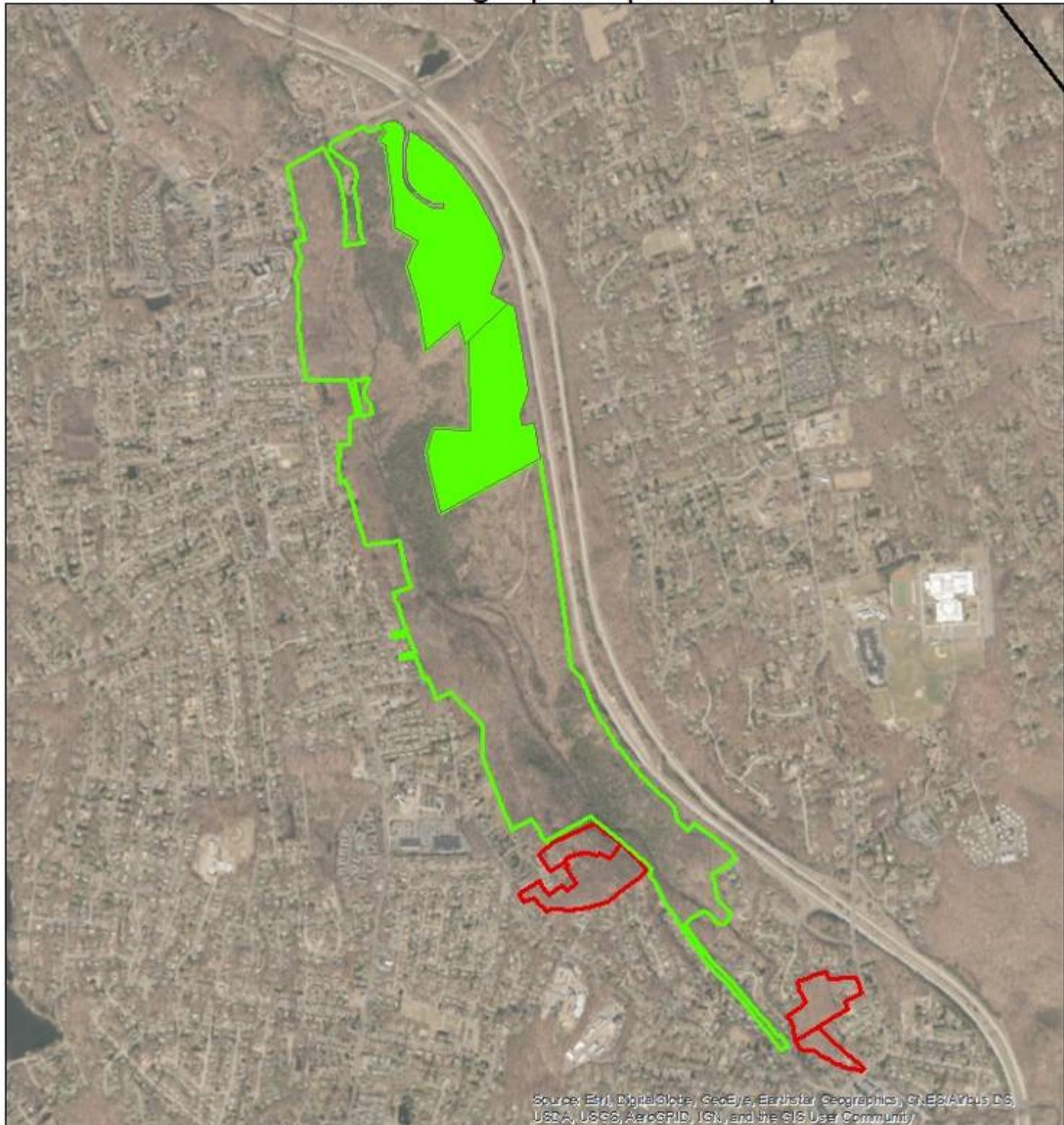
# Pequonnock River Valley Park Ecological Communities Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# Pequonnock River Valley Park Surrounding Open Space Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<p>Pequonnock River Valley Park</p> <p>Indian Ledge Park</p> <p>Priority Acquisition Parcels per Pequonnock River Watershed Management Plan</p>	<p>N</p>  <p>0 0.25 0.5 1 Miles</p>	<p>1 inch = 1,626 feet</p>  <p>May 6, 2020</p>
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### THREATS:

- Water pollution-approximately 80% of the Pequonnock River does not meet minimum standards for recreation or habitat for fish, other aquatic life, and wildlife. Total Suspended Solids exceed regulatory guidelines
- Erosion and stormwater runoff on steep slopes along western boundary
- Wooly adelgid hemlock disease
- Dying ash and hemlocks fall on trails
- Invasive burning bush along eastern edge of Rail Trail
- Deer browsing native plants
- Litter-Park is well maintained now and litter-free

### RECOMMENDATIONS:

- Protect the 6.7 acre 'Hardy parcel', the 15.9 acre 'Penkoff parcel', the 10 acre parcel located at #147 Daniels Farm Road and the 4 acre parcel located at #5 Old Mill Road
- Protect with conservation easements three other oversized lots on Birdsall Avenue
- Slow erosion and stormwater on steep hillsides with stormwater improvements including rip-rap, check dams, vegetated swales
- Monitor and if necessary treat some diseased hemlocks
- Remove invasive burning bush along River Trail
- Continue deer management program (hunting)
- Improve trail blazes and signage
- Monitor water quality
- Continue to clean up trash

## PEQUONNOCK RIVER VALLEY PARK

PLANT & WILDLIFE INVENTORY MARCH 5, APRIL 10, 21 & 22, MAY 9, MAY 12 and June 1, 2020 Field Surveys

### **Trees:**

*Acer platanoides* (Norway maple)  
*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Betula populifolia* (gray birch)  
*Carpinus caroliniana* (ironwood)  
*Carya cordiformis* (bitternut hickory)  
*Carya ovata* (shagbark hickory)  
*Carya tomentosa* (mockernut hickory)  
*Castanea dentata* (American chestnut)  
*Cornus florida* (flowering dogwood)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Hamamelis virginiana* (staghorn sumac)  
*Ilex opaca* (American holly)  
*Juglans nigra* (black walnut)  
*Juniperus virginiana* (red cedar)  
*Liriodendron tulipifera* (tulip tree)  
*Malus* spp. (crabapple)  
*Nyssa sylvatica* (tupelo)  
*Pinus strobus* (white pine)  
*Platanus occidentalis* (American sycamore)  
*Populus deltoids* (cottonwood)  
*Populus grandidentata* (big-toothed aspen)  
*Prunus serotina* (black cherry)  
*Prunus virginiana* (choke cherry)  
*Quercus alba* (white oak)  
*Quercus prinus* (chestnut oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Salix* spp. (willow)  
*Sassafras albidum* (sassafras)  
*Tsuga canadensis* (eastern hemlock)  
*Ulmus americana* (American elm)

### **Shrubs:**

*Alnus serrulata* (smooth [common] alder)  
*Berberis thunbergii* (Japanese barberry)  
*Chimaphila maculata* (pipsissewa, spotted/striped wintergreen)  
*Clethra alnifolia* (pepperbush)  
*Comptonia peregrina* (sweet fern)  
*Cornus amomum* (silky dogwood)  
*Cornus racemosa* (gray stemmed dogwood)  
*Euonymus alatus* (winged euonymus)  
*Hamamelis virginiana* (witch hazel)  
*Kalmia latifolia* (mountain laurel)

Lindera benzoin (spicebush)  
Lonicera Morrowii (Morrow's honeysuckle)  
Myrica pensylvanica (bayberry)  
Rhododendron periclymenoides (pinxter)  
Rhodotypos scandens (jetbead)  
Rhus typhina (staghorn sumac)  
Rosa multiflora (multiflora rose)  
Rubus flagellaris (dewberry)  
Rubus phoenicolasius (wineberry)  
Rubus spp. (blackberry)  
Salix discolor (pussy willow)  
Spiraea alba (meadowsweet)  
Vaccinium angustifolium (low-bush blueberry)  
Vaccinium corymbosum (high-bush blueberry)  
Viburnum acerifolium (maple leaf viburnum)  
Viburnum sieboldii (Siebold viburnum)

**Vines:**

Celastrus orbiculatus (Asiatic bittersweet)  
Lonicera japonica (Japanese honeysuckle)  
Mitchella repens (partridge berry)  
Parthenocissus quinquefolia (Virginia creeper)  
Smilax rotundifolia (greenbrier)  
Toxicodendron radicans (poison ivy)  
Vitis sp. (grape)

**Herbs:**

Alliaria petiolata (garlic mustard)  
Anemone nemorosa (wood anemone)  
Aralia nudicaulis (sarsaparilla)  
Arisaema triphyllum (Jack-in-the-pulpit)  
Artemisia vulgaris (common mugwort)  
Aster divaricatus (white wood aster)  
Barbarea vulgaris (winter cress/yellow rocket)  
Cardamine diphylla (Dentaria diphylla) (toothwort)  
Cardamine impatiens (narrowleaf bittercress)  
Caulophyllum thalictroides (blue cohosh)  
Chelidonium majus (celandine)  
Chimaphila maculata (spotted wintergreen)  
Claytonia virginica (spring beauty)  
Cypripedium acaule (pink lady's-slipper)  
Erythronium americanum (trout lily)  
Filipendula ulmaria (meadowsweet)  
Fragaria virginiana (wild strawberry)  
Galium aprine (cleavers)  
Geranium maculatum (wild geranium)  
Hesperis matronalis (dame's rocket)  
Impatiens capensis (orange jewelweed)  
Maianthemum canadense (Canada mayflower)  
Mitchella repens (partridgeberry)

*Nabalus serpentarius* (lions foot)  
*Panax trifolius* (dwarf ginseng)  
*Polygonatum biflorum* (true Solomon's seal)  
*Polygonum cuspidatum* (Japanese knotweed)  
*Polygonum persicaria* (lady's thumb)  
*Potentilla simplex* (common cinquefoil)  
*Pyrola elliptica* (shinleaf)  
*Ranunculus abortivus* (kidneyleaf buttercup)  
*Rumex* spp. (dock)  
*Sanguinaria canadensis* (bloodroot)  
*Solidago Canadensis* (Canada goldenrod)  
*Symplocarpus foetidus* (skunk cabbage)  
*Thalictrum pubescens* (tall meadow rue)  
*Thalictrum thalictroides* (rue anemone)  
*Trillium erectum* (red trillium)  
*Typha latifolia* (common cattail)  
*Uvularia sessilifolia* (sessile bellwort)  
*Varatrum viride* (false hellebore)

**Sedges & Rushes:**

*Carex blanda* (woodland sedge)  
*Carex pensylvanica* (Pennsylvania sedge)  
*Carex plantaginea* (seersucker sedge)  
*Carex stricta* (tussock sedge)

**Grasses:**

*Panicum clandestinum* (deer-tongue grass)  
*Phragmites australis* (giant reed grass)  
*Schizachyrium scoparium* (little bluestem)

**Ferns and allies:**

*Athyrium filix-femina* (lady fern)  
*Dennstaedtia punctilobula* (hay-scented fern)  
*Dryopteris carthusiana* (spinulose wood fern)  
*Epifagus americana* (beech drops)  
*Lycopodium obscurum* (ground pine)

*Onoclea sensibilis* (sensitive fern)  
*Osmunda cinnamomea* (cinnamon fern)  
*Polypodium vulgare/ virginianum* (rock polypody, rock cap fern)  
*Polystichum acrostichoides* (Christmas fern)  
*Thelypteris noveboracensis* (New York fern)  
*Thelypteris palustris* (marsh fern)

**Birds- observed:**

*Anas platyrhynchos* (mallard)  
*Ardea herodias* (great blue heron)  
*Buteo jamaicensis* (red-tailed hawk)  
*Chaetura pelasgica* (chimney swift)

Dryocopus pileatus (pileated woodpecker)  
Melanerpes carolinus (red-bellied woodpecker)  
Colaptes auratus (yellow-shafted flicker)  
Picoides pubescens (downy woodpecker)  
Myiarchus crinitus (great crested flycatcher)  
Sayornis phoebe (eastern phoebe)  
Cyanocitta cristata (blue jay)  
Corvus brachyrhynchos (American crow)  
Parus atricapillus (black-capped chickadee)  
Parus bicolor (tufted titmouse)  
Sitta carolinensis (white-breasted nuthatch)  
Thryothorus ludovicianus (Carolina wren)  
Dumetella carolinensis (gray catbird)  
Turdus migratorius (American robin)  
Hylocichla mustelina (wood thrush)  
Hylocichla guttata (hermit thrush)  
Catharus fuscescens (veery)  
Dendroica petechia (yellow warbler)  
Seiurus aurocapillus (ovenbird)  
Geothlypis trichas (common yellowthroat)  
Seiurus motacilla (Louisiana waterthrush)  
Agelaius phoeniceus (red-winged blackbird)  
Quiscalus quiscula (common grackle)  
Cardinalis cardinalis (northern cardinal)

**Amphibians and Reptiles-observed:**

Rana sylvatica (wood frog)  
Terrapene carolina (box turtle)-listed in Natural Diversity Data Base

**Fish: (6 CT DEEP surveys August 1990-June 2007):**

Brook, brown, and rainbow trout (mix of native and stocked)  
Largemouth and rock bass (non-native)  
Bluegill and redbreast sunfish (mix of native and stocked)  
American eel (native)  
Yellow perch (native)

## BEACH MEMORIAL & TWIN BROOKS PARKS

JANUARY 30, FEBRUARY 4, JUNE 5, JUNE 10, JUNE 11, 2020 Field Surveys

**CONSERVATION VALUES** include: Forests including mature interior forests with very large trees over 40 inches in diameter, extensive hiking trails, wetlands and vernal pools, several ponds, seeps, riparian zones, floodplain forests near flood hazard zone, sections of Booth Hill Brook, a large 6-acre meadow and several smaller meadows, nesting sites and stop over sites for migrating birds, habitat for pollinators, alewives-a diadromous fish in decline-migrating into ponds occasionally, opportunities for nature study with nearby Trumbull High School and Hillcrest Middle School and scenic vistas for visitors and neighbors. The Parks are remarkably free of litter due to good maintenance.

The 394-acre Beach Memorial-Twin Brooks Parks lie in the south-central section of Trumbull (see Location Map page 54). Beach Memorial Park was purchased from Bridgeport Hydraulic Company and dedicated in 1946 to honor Robert G. Beach and other Trumbull residents lost in war. Three other parcels making up Twin Brooks Park were purchased by the Town of Trumbull in 1961 and 1970. Access and parking are found at White Plains Road to the south; Hedgehog Road to the northwest and Old Dike Road to the northeast. The parks are surrounded by Route 25 and the Pequonnock River to the west and the Booth Hill Brook to the east (see Satellite Photograph Map page 55). Single family homes are found to the north and east. Pequonnock River Valley Park lies 0.5 miles to the west but is separated by Route 25 (see Surrounding Open Space Map page 61). Pinewood Lake is just east of the parks and flows into the streams that border the Parks' eastern boundary which then flow into the Pequonnock River. Trumbull High School and Hillcrest Middle School abut the Park's northwest boundary and may connect via a hiking trail which would allow students and classes to visit the parks.

Although recreational facilities--which include a swimming pool, beach, playground, pavilion, restrooms and a field--are prominent, most of the acreage, approximately 375 acres or 95% of the land area, is heavily wooded (see Satellite Photograph map page 55). Although the recreational facilities have many visitors, one can hike through the woods and seldom see others.

Elevations drop from 420 feet above sea level at the parks' northern boundary down to 80 feet in elevation at the Parks' southern boundary (see Elevation Map page 56 and Topographic Map page 57). Steep slopes and rock outcroppings run west and east through the center of the Parks and slope down to a series of wetlands which flow through the Parks' central region (see Streams and Wetlands Map page 58). Streams generally flow north to south through the Parks.

#### ECOLOGICAL COMMUNITIES:

The Beach Memorial-Twin Brooks Parks ecological communities are not clearly delineated. The typical categories of red maple forest, maple beech forest and oak-hickory forest seem to be overlapping throughout the Parks' 394 acres perhaps because the Parks' topography and hydrology are fairly consistent with gently falling gradients and consistently moist soils. The entire area could be categorized as a mature, mixed mesophytic forest with medium to large trees--some oak and tulip trees are as large as 40 inches in diameter. This high level of biodiversity creates ecological stability since every area has such a variety of tree, shrub and ground layer plant species that any type of disease and/or predation will not have an overwhelming effect on the landscape. The shrub and ground layers are remarkably dense for southern New England where deer populations tend to denude the forest floor. The forest is also remarkably free of invasive plants except at the Parks' perimeter.

Recognizing the overlapping habitats, the following ecological communities are found in the parks: (see Ecological Communities Map page 60 and Plant Inventory page 66):

#### OAK-HICKORY FOREST: 120 acres

This plant community is found at the higher and slightly drier elevations throughout the Parks and is dominated by red oaks and also includes black and white oaks as well as shagbark, pignut, bitternut and mockernut hickory trees. Rare chestnut oaks grow in the highest areas. Red maples also grow here and even an occasional stand of big tooth aspens. Trees are medium to large size with some 30 inches in diameter. The understory includes black birch, beech, sassafras and black cherry. Shrubs include low bush blueberry, mountain laurel, maple leaf viburnum and witch hazel. Ground layer plants are dominated by

## BEACH MEMORIAL & TWIN BROOKS PARKS

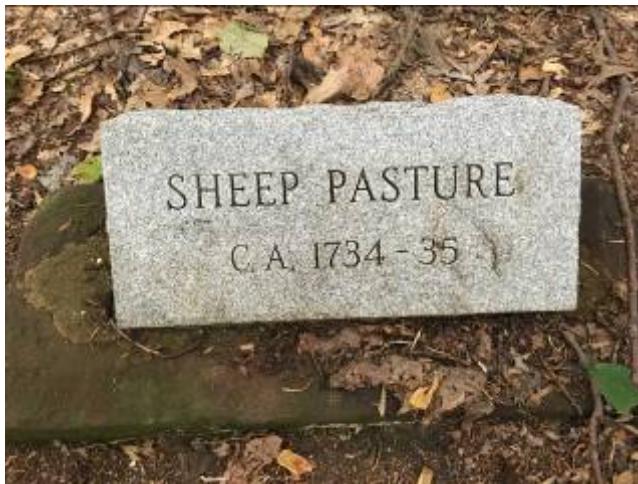
greenbriar and blackberry vines, sarsaparilla, white wood asters, princess pine (ground pine), Solomon's seal, bellwort, deer tongue grass, cinquefoil, dewberry, strawberry, Canada mayflower and New York and hay scented ferns and Pennsylvania and seersucker sedge.



Dense understory in center of parks is unusual for areas with large deer populations



Savannah-like conditions in Oak-Hickory forest in parks' northern section with low bush blueberry patches beneath oak trees



Historic/educational monuments along trail connecting to Trumbull High School & Hillcrest Middle School



Huge, 7-foot diameter re-sprouted red oak



### TULIP-OAK; TULIP-BEECH-RED MAPLE; BEECH RED MAPLE FORESTS: 200 acres

This is a hodgepodge of communities that have in common moist soils at mid-slope and bottom slope areas throughout the Parks. In some cases tulip is the dominant tree; in other cases red maple is the dominant tree with co-dominant trees being oaks and beeches. Some tulip trees reach 40 inches in diameter. Black birch, ash, hickory, black cherry, sassafras, sugar maple, aspen and hemlock are also present in the canopy and understory. Occasionally red cedar and white pines are found. Red cedars are remnants in places that were formerly open fields while white pines apparently were planted and have spread. The shrub layer includes mountain laurel, witch hazel, high bush blueberry, low bush blueberry, spicebush, serviceberry and maple leaf viburnum. Ground layer plants are sarsaparilla, Canada mayflower, white wood aster, greenbriar vine, sessile bellwort, wintergreen, shinleaf, princess pine, Indian cucumber and hay scented, New York, Christmas, lady, cinnamon and interrupted fern.

### WETLANDS/RED MAPLE SWAMP: 60 ACRES

Wetlands and other watercourses total approximately 60 acres or 15% of the Parks' area. The Park's wetlands provide important ecological functions including removing pollutants and sediments-an important function since much of the Pequonnock River is polluted. The River's amounts of Total Suspended Solids exceed regulatory guidelines<sup>56</sup> and approximately 80% of the River does not meet minimum standards for recreation or habitat for fish, other aquatic life, and wildlife.<sup>57</sup> The Parks' wetlands also control flooding--especially important in Trumbull which has seen increased flooding in recent years as climate change increases the frequency and severity of rain events



Wetland with standing water in parks' center

<sup>56</sup> Pequonnock River Watershed Assessment, 2010, page 141.

<sup>57</sup> Pequonnock River Watershed Based Plan Executive Summary p. 1.

and development increases the amount of impervious surfaces. The streams running along the Parks' southeast boundary are in the FEMA designated floodplain (see Flood Risk Map page xx). One home in this floodplain at 48 Larkspur Drive was bought and demolished with FEMA funding because of continually flooding. Wetlands also provide habitats for insects including pollinators, reptiles and amphibians, birds and other wildlife. The Parks' wetlands typically have a tree canopy of tulip, red maple, ash, tupelo, sycamore, shagbark hickory and yellow birch trees, a shrub layer dominated by spicebush along with winterberry, clethra (sweet pepperbush) and blueberry shrubs and a ground layer of skunk cabbage, false hellebore, nettles, sensitive, marsh and cinnamon fern, jewelweed and Jack-in-the-pulpit plants.

#### PONDS: 6 ponds totaling 10 acres

Approximately two-thirds of the 4-acre, western-most pond has a shoreline that is naturally vegetated while approximately 400 feet of shoreline open, sandy beach for the public to enjoy. The natural vegetation filters storm water run-off, cools water temperature by shading and provides habitat for wildlife and the many tree swallows, great blue heron, Canada geese and other birds attest to its wildlife value. Vegetation includes red maple, elm and cottonwood trees and willow and alder shrubs. In the manicured area, pin oaks and Norway maples have been planted along the shore along with rows of viburnum shrubs and ornamental grasses. The shrubs have been cut down, perhaps to keep them from growing too tall, but most are re-sprouting. This area is well managed and is remarkably free of litter.

Like most man-made water bodies, this pond has excess vegetation and fountains and herbicides are used to prevent the pond from being overtaken by weeds. The herbicide Clipper was applied in June. The active ingredient, flumioxazin, can be toxic to fish and aquatic invertebrates<sup>58</sup> and can lead to weed resistance. Fish suffocation can occur because of low oxygen due to



Southwest pond-recently trimmed viburnums along shoreline

<sup>58</sup> <https://dnr.wi.gov/lakes/plants/factsheets/FlumioxazinFactsheet.pdf>

decaying plants killed by the herbicide.

A small, 0.5 acre pond just to the north has a naturally vegetated shoreline with grass that is unmowed and allowed to grow tall along with cattails, alder and sensitive fern on the east side and a grove of 7 native river birch also in tall grass on the opposite shoreline. This vegetative buffer filters stormwater, prevents erosion and provides habitat for birds, fish, insects including pollinators and other wildlife and is a good example of a well-managed landscape.



Northwest pond-unmowed, tall grass along shoreline



Northwest pond-native river birches and tall grass along shoreline

The two ponds on the east side of the drive total 4 and 1 acres in size. Both have single family homes along the eastern shore with lawn mowed close to the shoreline, creating soil erosion that adds pollution to the water. The western shorelines are naturally vegetated with willow trees and alder shrubs. Neighbors, and all residents, can be informed about the value of naturally vegetated pond, stream and wetland buffers.

The two ponds to the northwest are both one-half acre in size and are remarkable for their completely natural shorelines. Willows, alders, sedges, rushes and goldernrod filter pollutants, provide wildlife habitat and create attractive scenic vistas for visitors.



Eastern shores of two eastern ponds have lawn and erosion along shoreline



Natural vegetation surrounding northernmost pond

RIVERS, STREAMS & SEEPS:

The Pequonnock River flows for 3,000 feet along the Parks' southwestern boundary. Medium to large sycamore, red maple, red oak and cottonwood trees line the riverbank. The understory has beech, aspen, ash and elm saplings. Invasive multi-flora rose and Japanese knotweed are common shrubs. Invasive mugwort and native nettles and sedge grow in the ground layer. This vegetation helps to filter and cool the river while providing habitat for fish and other wildlife and many birds were observed here including yellow warblers, redstarts and chimney swifts.

Streambanks away from the perimeter of the Parks have fewer invasive plants. In these areas, red maple, elm, tulip and shagbark hickory are common along with sweet pepperbush (clethra) shrubs and skunk cabbage, nettles, cinnamon and sensitive fern and jewelweed.

At least 6 streams flow north to south through the Parks and into the Pequonnock River. The largest of these is including the Booth Hill Brook which flows into Pinewood Lake, located at the Parks' northeast boundary, and then out of Pinewood Lake and through the series of six ponds in the Park before emptying into the Pequonnock River at the Parks' southernmost section. According to Steve Gephard, CT DEEP Fisheries Biologist, alewives are gaining access to these ponds. Alewives are diadromous fish that migrate between freshwater waterways, including the Pequonnock River, and the ocean. Such fish have experienced sharp population declines since the advent of river damming. These ponds are possible locations for fishways that could allow fish to move more easily among the ponds. Another fishway is recommended for the dam at Pinewood Lake, along the Parks' northeastern boundary (see Trumbull Fishway Possible Locations Map, page 64). CT DEEP can help with the design of any modifications.

## BEACH MEMORIAL & TWIN BROOKS PARKS

A successful fishway was installed at Bunnells Pond in Beardsley Park several years ago.



Alewife, a native river herring  
(photo Connecticut River Salmon Association)



Bunnells Pond fishway at Beardsley Zoo  
(photo Connecticut River Salmon Association)

The Parks' streams are typically shaded by red maple, ash and elm trees and sweet pepperbush (clethra) shrubs with skunk cabbage in the ground layer. Forested seeps which flow out of the ground provide important ecological services in the park. Water temperatures stay a constant 45-50 degrees Fahrenheit throughout the year. In springtime, the constant supply of relatively warmer water typically results in early spring development of grasses and sedges around seeps. This early spring vegetation is an important source of food for emerging insects and other pollinators. The mild temperatures of seeps help to also moderate the temperature of the water into which the seep flows--keeping temperatures from becoming too warm in summer months. This creates a more hospitable environment for insects, reptiles, amphibians-including dusky and northern two-lined salamanders-trout and other cool-water fish and other wildlife.

#### VERNAL POOLS:

Several vernal pools are found throughout the park. A vernal (seasonal) pool is a wetland filled by winter snow melt and spring rain. Vernal pools typically dry up by late summer and therefore do not support fish. Certain species, termed 'obligate' vernal pool species because they must use a vernal pool for various parts of their life cycle, have evolved to use these wetlands where they are protected from fish predation. Wood frogs, fairy shrimp and spotted, blue-spotted, Jefferson, marbled and four-toed salamanders are obligate vernal pool species in Connecticut. Spotted turtles and box turtles will also use vernal pools for resting and foraging.

MEADOWS: 7 acres

A large, 6-acre meadow north of the 6 ponds is being restored.



This meadow is filled with milkweed—the important food source for monarch butterflies—along with asters, Joe-Pye weed, red clover, panic grass, dogbane, blue wild indigo, deer tongue grass, daisy fleabane, poor man's pepper, Canada goldenrod, ironweed and birdsfoot trefoil and other herbs. Large patches of non-native, invasive mugwort grow in the meadow as well and should be monitored. Mugwort can take over a meadow if unchecked and is difficult to eradicate simply by mowing. Selective herbicides may be considered if mugwort threatens the native herbs in this meadow. One bluebird box needs fixing; the meadow would be a good place for a number of other bluebird houses that can house not just bluebirds but also wrens, chickadees, titmouse, tree swallows but also the aggressive and non-native house sparrow. Educational signs can help identify wildflowers, explain the benefits of native plants and encourage homeowners to convert parts of their lawns to meadow to benefit pollinators and other wildlife and to reduce noise and fossil fuel use and expenses.

A smaller, 1- acre meadow is found just north of the southwestern pond. Grass-mostly Kentucky bluegrass-has been allowed to grow tall with white clover mixed in. A dozen or so ornamental cherry trees form a grove with a few naturally occurring red cedar trees at the perimeter. These taller grass meadows, as opposed to more



typical tightly mowed lawns, provide habitat for a wide range of insects including pollinators, amphibians and reptiles and small mammals. Benefits to humans include lower labor and fuel costs associated with weekly mowing. Taller grasses with their deeper roots resist drought and diseases, also reducing maintenance expenses.

South Meadow with cherry trees

Another small meadow grows along the eastern drive at the parks' entrance below rows of crabapple trees.

These meadows, and the ponds nearby, have an impressive array of bird species including Baltimore orioles, kingbirds, barn and tress swallows, chimney swifts, great crested flycatchers, yellow warblers, common yellowthroats, cedar waxwings, phoebe, great blue herons, goldfinch, song sparrows and red winged blackbirds.



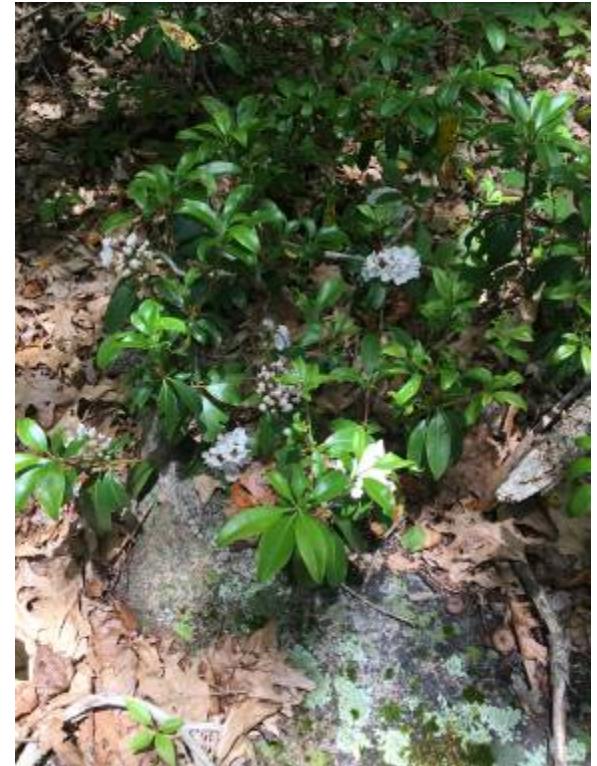
Small meadow near entrance

## BEACH MEMORIAL & TWIN BROOKS PARKS

### WILDFLOWERS & SHRUBS OF BEACH MEMORIAL & TWIN BROOKS PARKS



Indian cucumber



Mountain laurel in bloom



Dense ground layer of sarsaparilla



Maple-leaf viburnum in bloom



Rip-rap preventing erosion, a practice that can be used throughout Trumbull

## BEACH MEMORIAL & TWIN BROOKS PARKS

### POOL AND NORTH SECTION OF BEACH MEMORIAL PARK (considered for an expanded pool):

The 40-acres of forest surrounding the pool complex are mature, closed canopy mixed deciduous woods consisting of medium to large (30" in diameter) tulip, beech, red, black and white oak and red and sugar maple trees.

Several streams and wetlands flow through the woods to the west and south of the pool complex.

Elevations to the north are higher and the woods are drier with many rock outcrops.



Rocky outcrops north of pool



Stream west of pool

In wetter areas tulip, yellow birch and hemlock dominate; in drier upland areas oak and maple trees grow in the canopy with black birch, beech, sassafras and occasional flowering dogwood in the understory.

Over 70 large oak, red maple, beech and tupelo trees grow in the one-acre grove where the proposed pool will be located. This grove provides shade and cooling to residents as well as stormwater and flood control for streams and wetlands downstream.

The forest's shrub layer has witch hazel, mountain laurel and high bush blueberry shrubs in the uplands and alder, sweet pepperbush, winterberry and spicebush shrubs in the wetlands. Invasive species are absent.

The ground layer is sparse throughout the winter but still has princess pine, wintergreen, woodland sedge, hair cap moss and pine cushion moss growing.

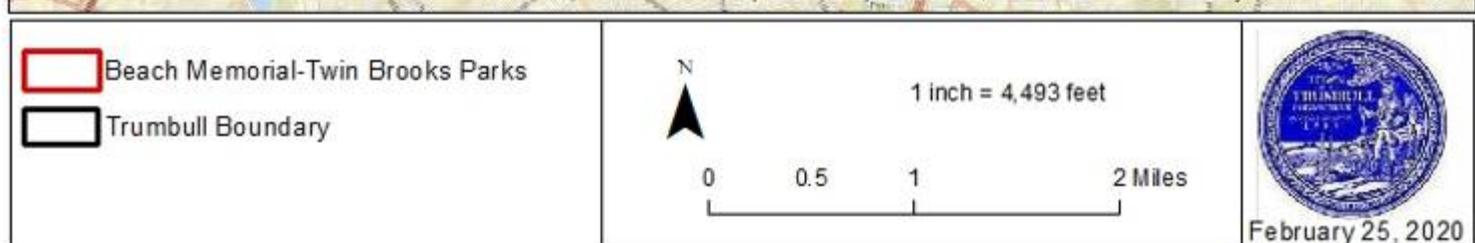
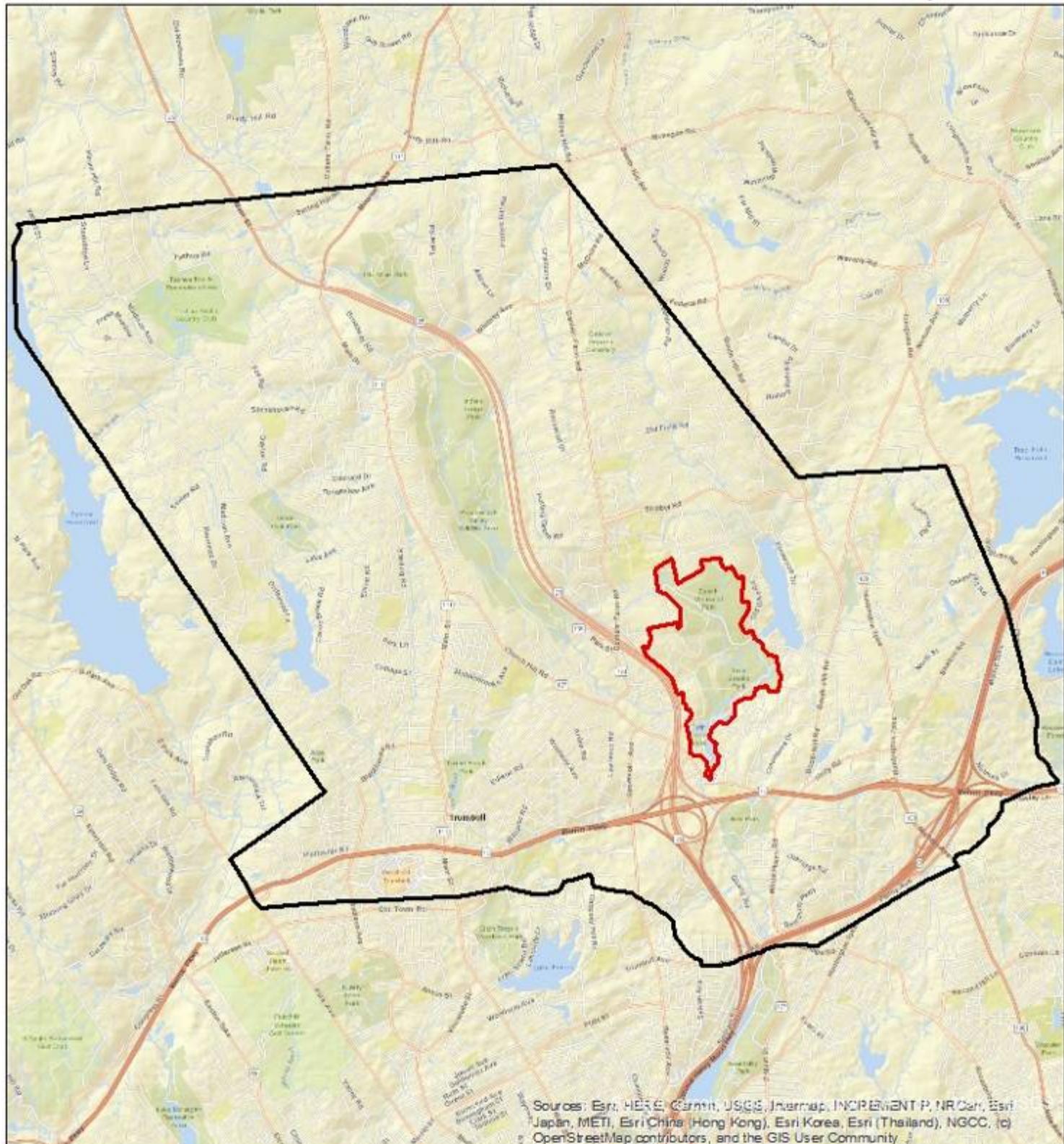


Wintergreen and princess pine in upland areas north and west of pool

The wetlands south and west of the pool complex and the uplands to the north are remarkably free of invasive plants, indicating that this is a healthy, self-sustaining and mature forest that is part of a 400-acre plant and wildlife corridor that provides some of the only refuge in the area for insects, amphibians and reptiles, small mammals, nesting and migrating birds and other wildlife.

Wildlife can move freely through this biotic corridor and any additional building and impervious surface may obstruct that movement.

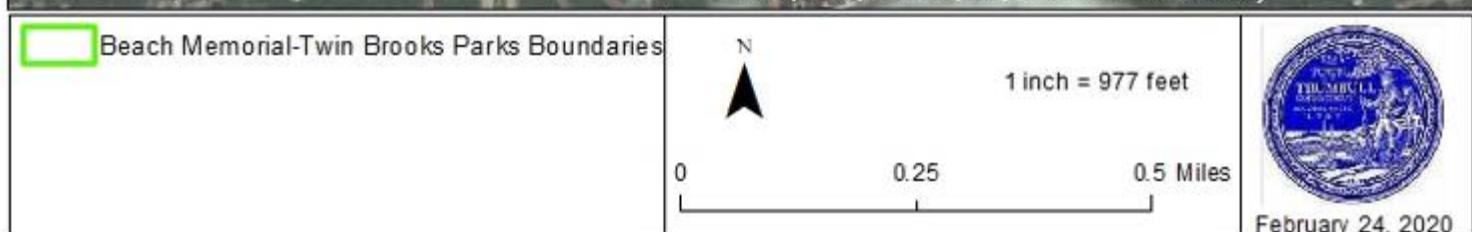
# Beach Memorial-Twin Brooks Parks Location Map



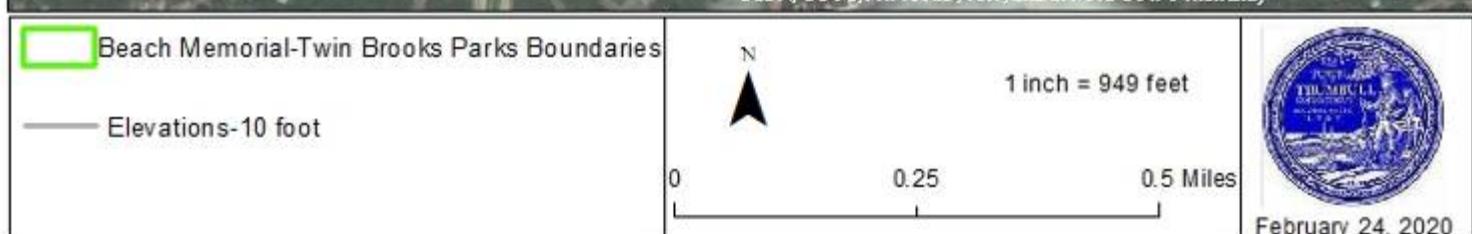
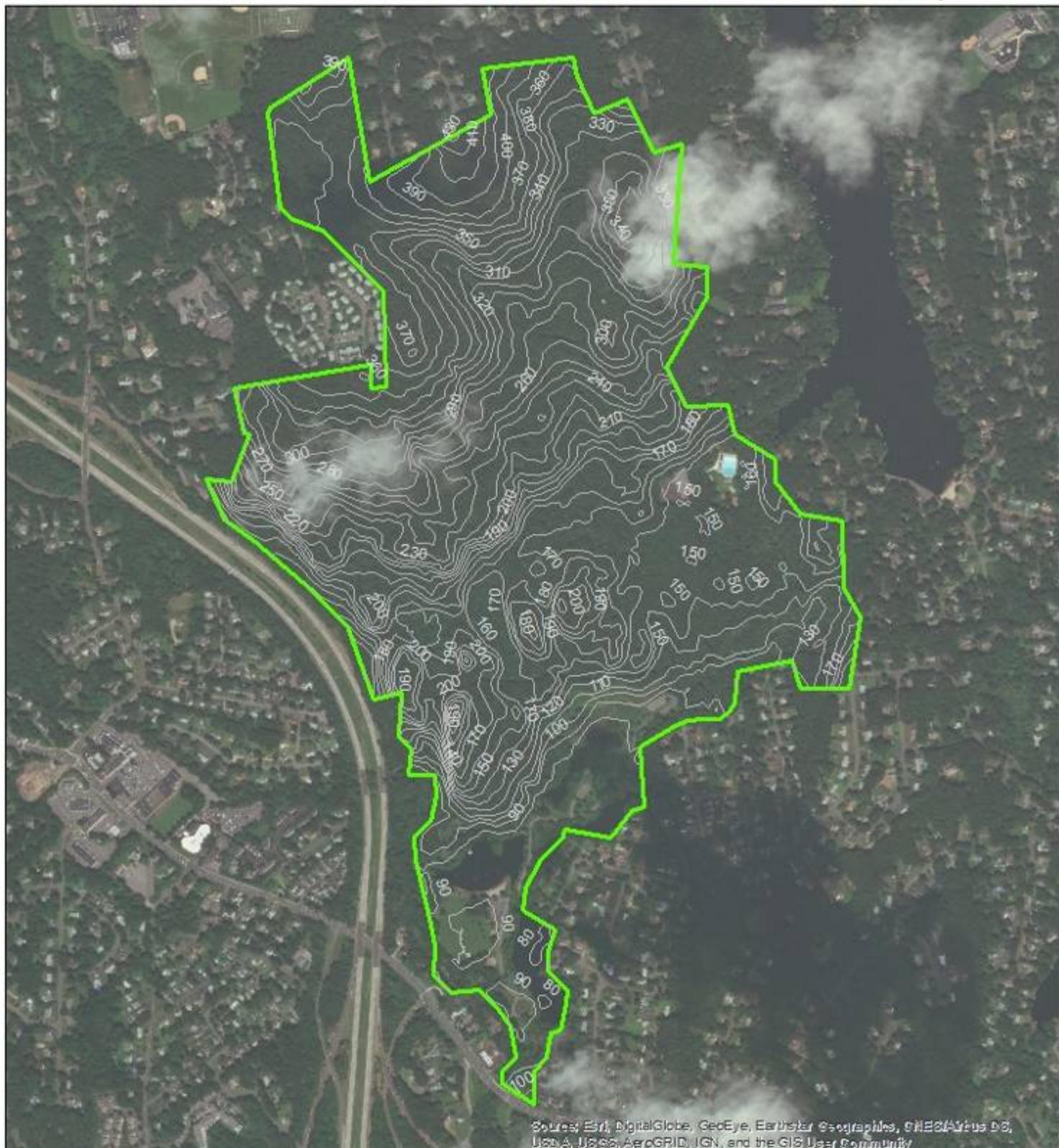
# Beach Memorial-Twin Brooks Parks Satellite Photograph Map



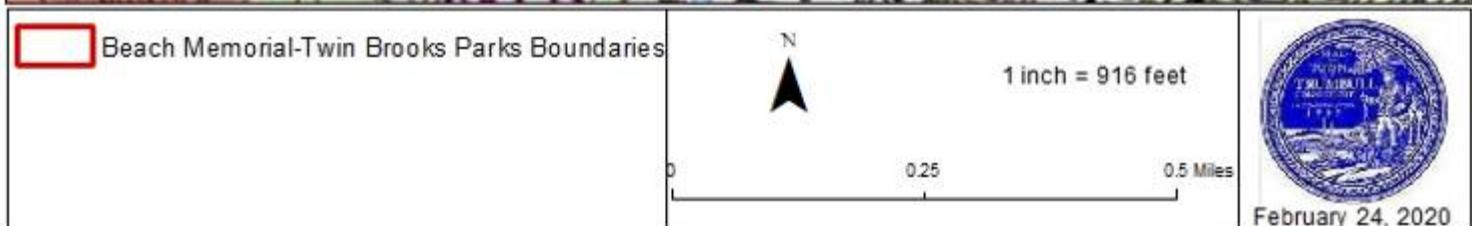
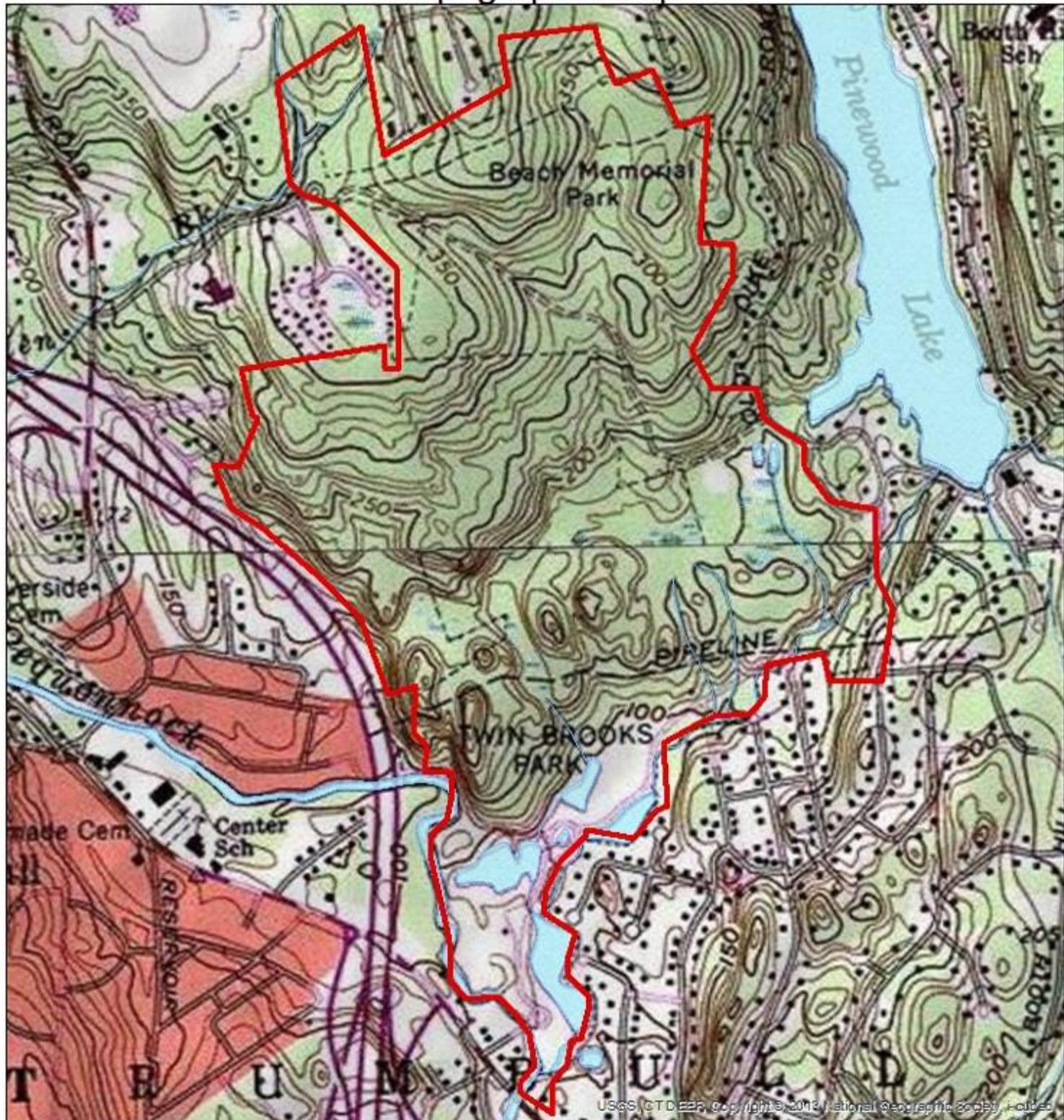
Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



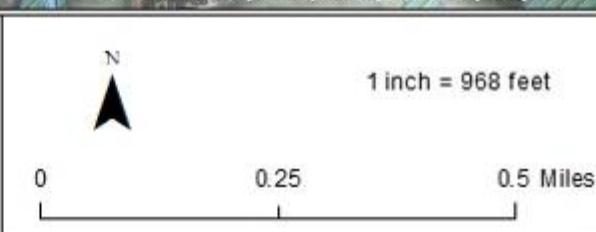
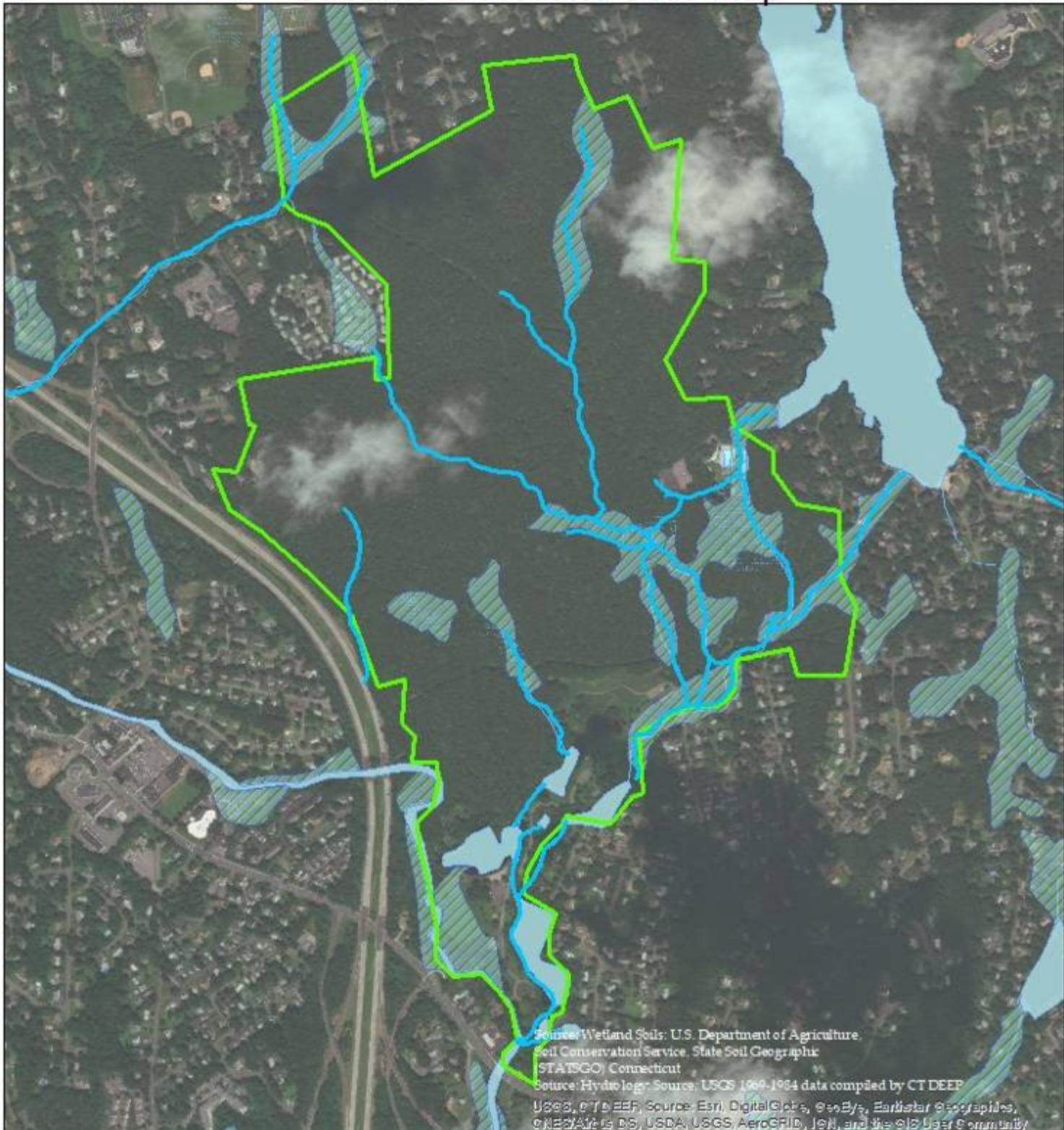
# Beach Memorial-Twin Brooks Parks Elevation Map



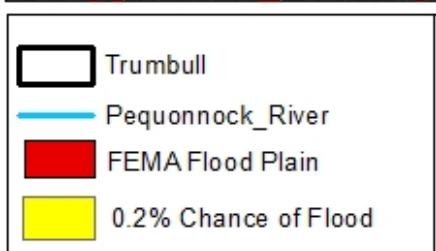
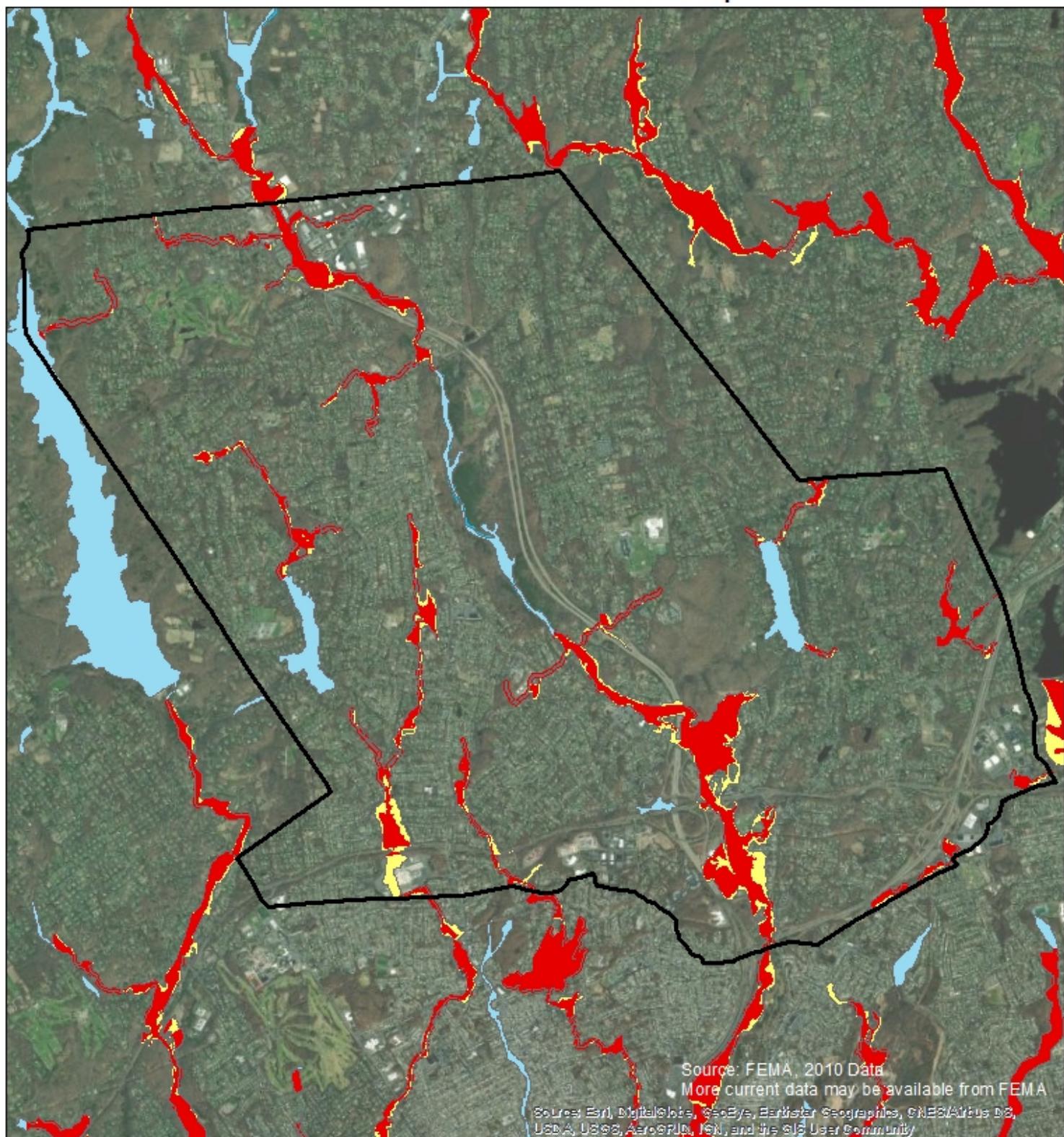
# Beach Memorial-Twin Brooks Parks Topographic Map



# Beach Memorial-Twin Brooks Parks Streams & Wetland Soils Map



# Trumbull Flood Risk Map



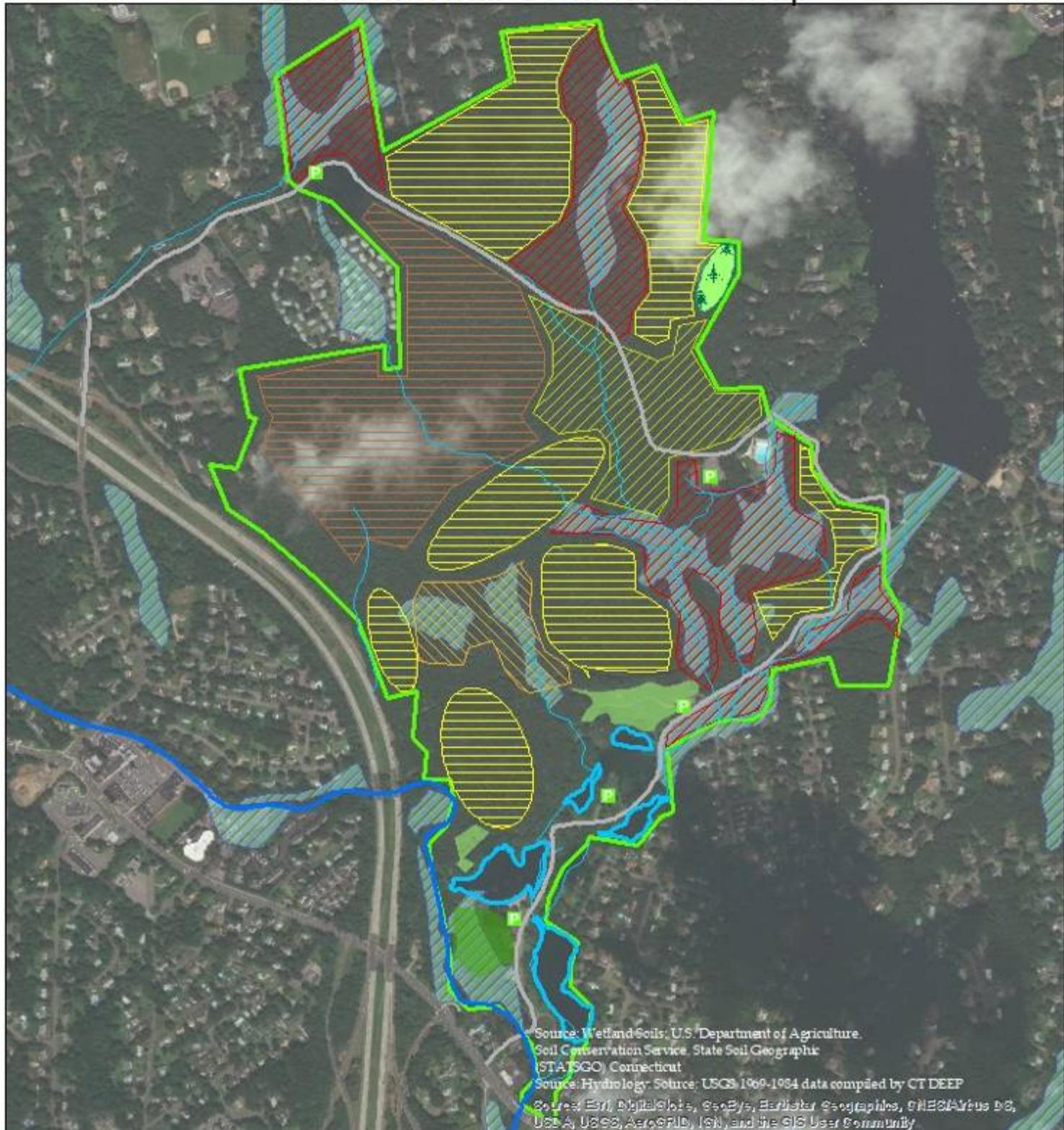
0 0.5 1 2 Miles

1 inch = 4,542 feet

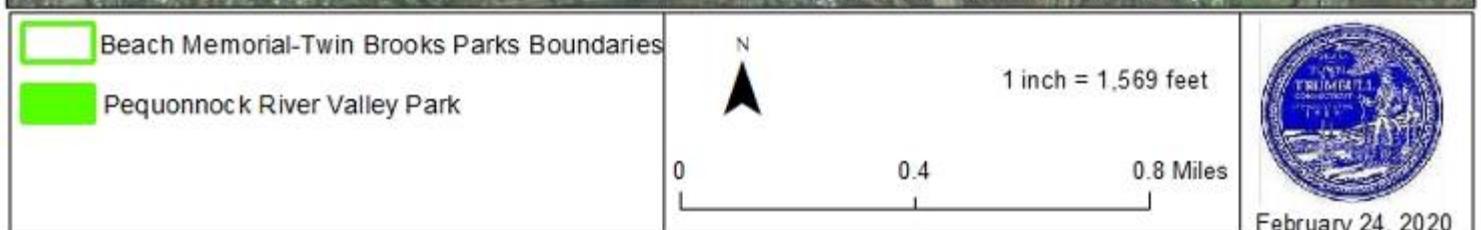
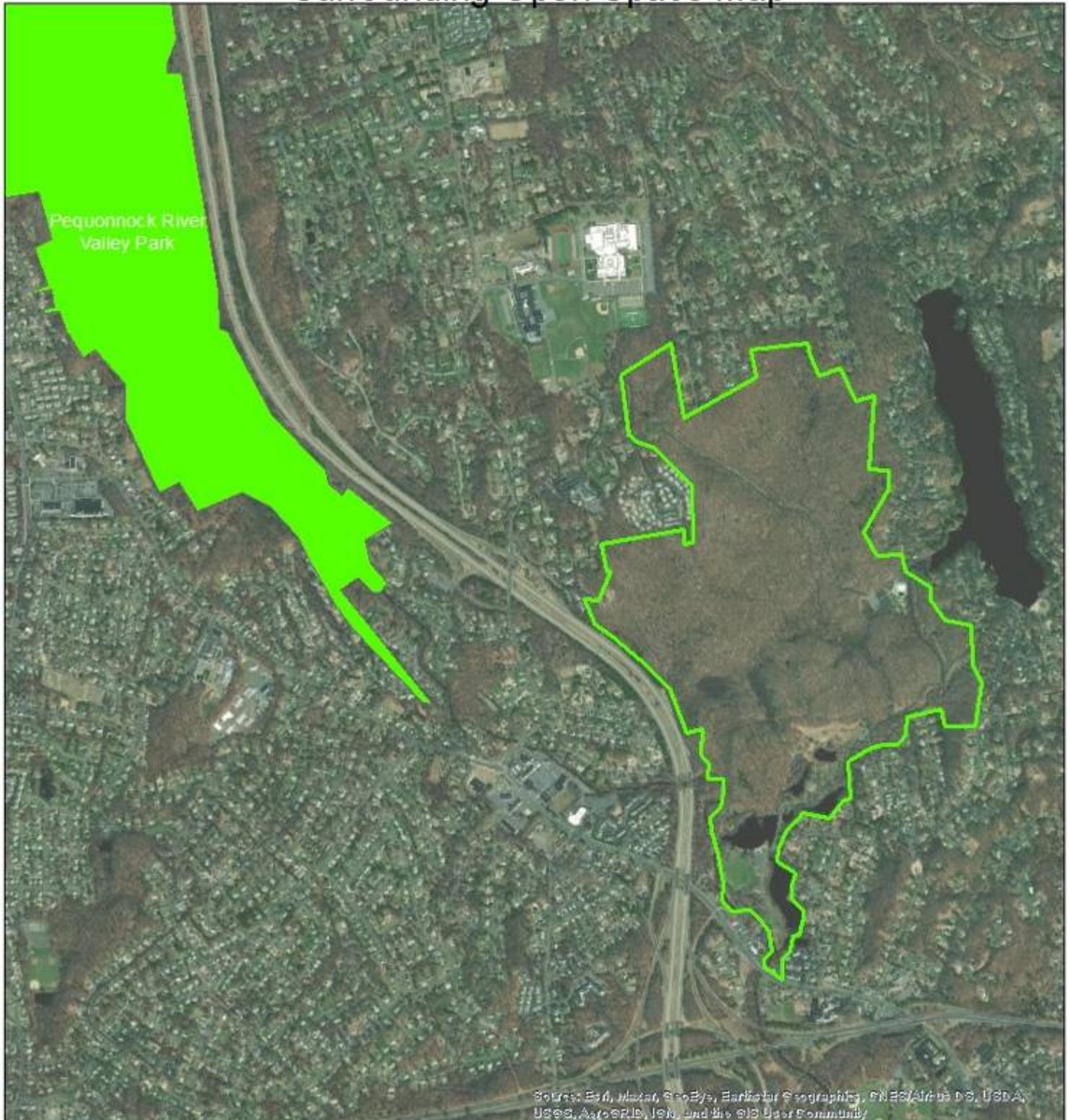


August 19, 2020

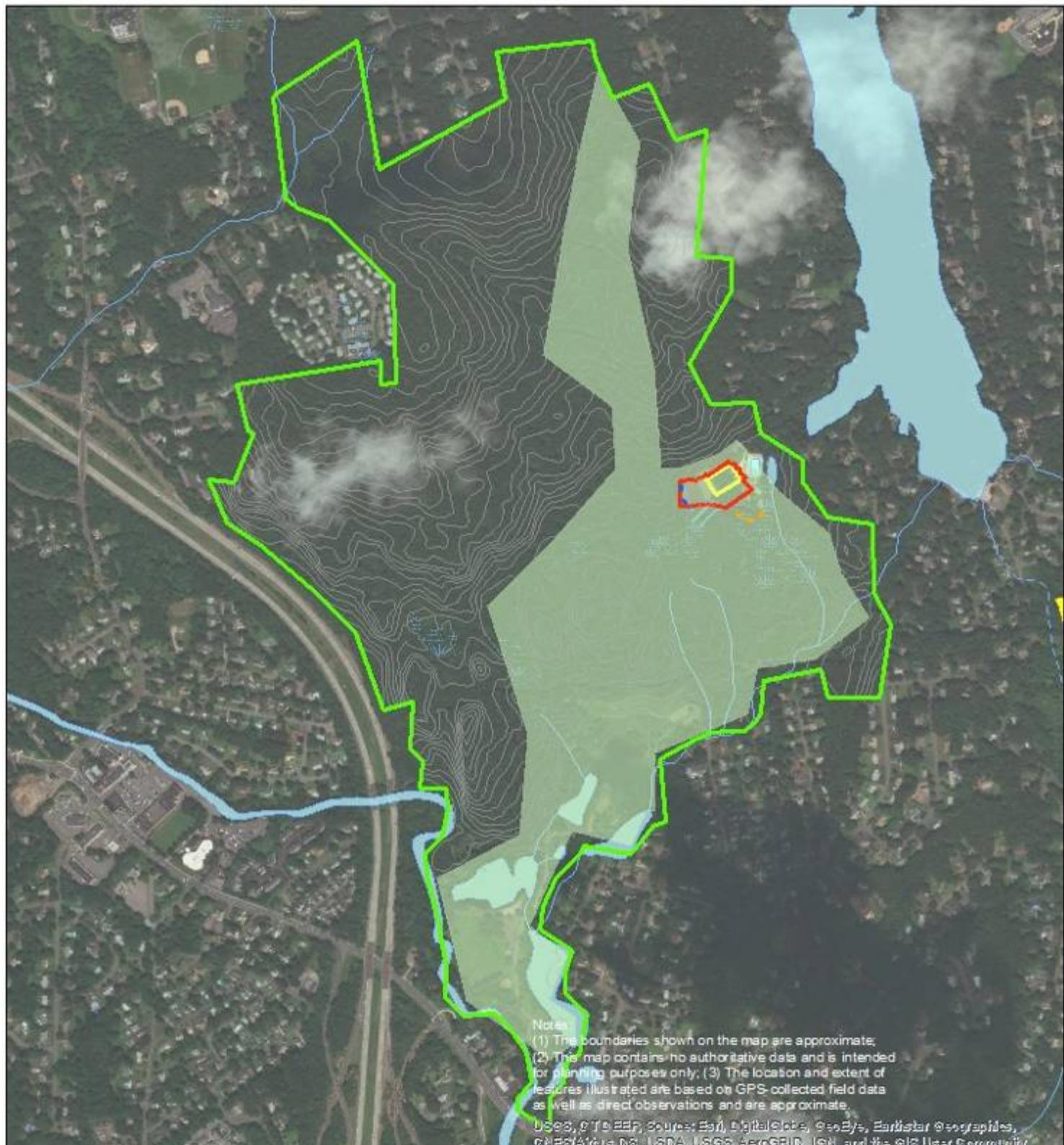
# Beach Memorial-Twin Brooks Parks Environmental Communities Map



# Beach Memorial-Twin Brooks Parks Surrounding Open Space Map



# Beach Memorial-Twin Brook Park



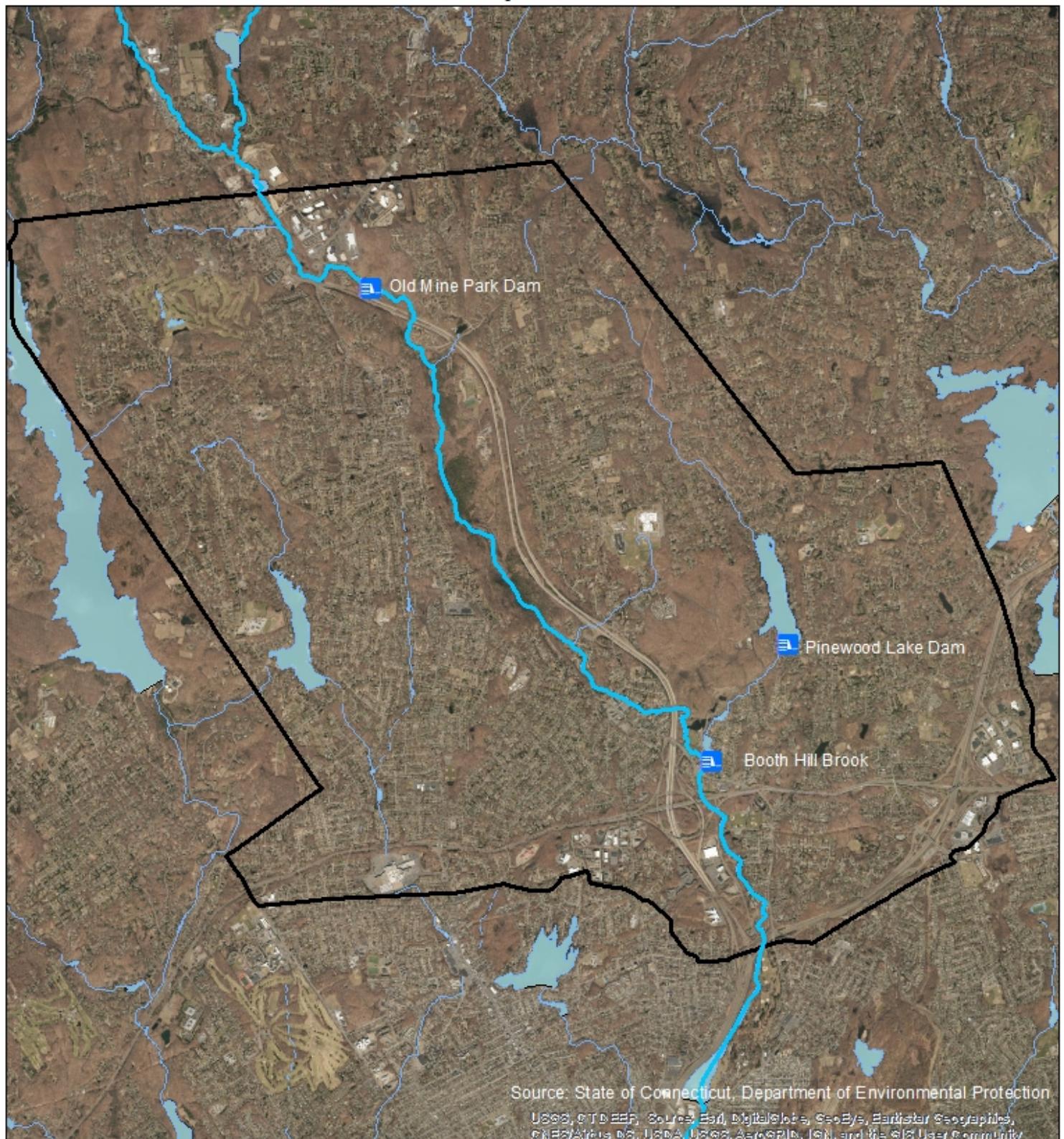
# Beach Memorial Park Pool Proposal

1. From an environmental point of view, the 70+ medium to large oaks should not be cut down and should be retained for shade, cooling and picnicing.
2. The flagged wetland at the far western edge of the proposed parking is a low-quality drainage ditch; the adjacent woods are young, second growth-the parking could be expanded into this area.
3. The southwest wetland at the south edge of the parking lot is a high-quality wetland with some fill-parking here could be reduced, some fill removed and some wetland restored.
4. The playground was wetland that has been filled. Fill extends for several hundred square feet into the southeast wetland. This is a high quality wetland with spicebush, red maple and tupelo and buffers the river to the east.
5. The proposed building could be swung counter clockwise to the southeast over the playground/fill area. A 50-100 foot wetland buffer should be maintained and/or some fill removed and some wetland restored.



<p>Proposed Impervious Surface-approximate</p> <p>Proposed Pool-approximate</p> <p>Wetland Soils-Natl Coop Soil Survey</p> <p>Wetlands flagged by O. Theall 11.8.19-approximate</p>	<p>Edge_of_Fill</p> <p>Drainage_Ditch</p> <p>River</p>	<p>N 1 inch = 104 feet</p> <p>0 25 50 100 Feet</p>	<p>February 17, 2020</p>
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## Trumbull Fishway Possible Locations



THREATS:

- Increased flooding of Booth Hill Brook
- Clearing around ponds and streams in Parks and by neighbors
- Invasive mugwort invading large meadow
- Proposed pool could remove over 70 large trees
- Litter-Park is well maintained now and litter-free
- Climate change increasing flooding

RECOMMENDATIONS:

- Increase vegetative buffer around ponds
- Educate neighbors with pond and stream frontage about the value of naturally vegetated pond, stream and wetland buffers
- Monitor/treat invasive mugwort in meadow
- Add/repair bird boxes in meadow and elsewhere
- Add fishways with CT DEEP assistance to ponds to aid alewife migration
- Add trail blazes and signage
- Connect trails to Trumbull High School and Hillcrest Middle School and use the Parks as outdoor, living classrooms
- Add signage explaining the value of native plants in meadow and what homeowners can do similarly
- Continue to clean up trash
- Continue to limit fertilizer and pesticide use per Twin Brooks Park management plan

## BEACH MEMORIAL & TWIN BROOKS PARKS

### PLANT & WILDLIFE INVENTORY January 30, February 4 and June 5, 2020 Field Surveys

#### **Trees:**

*Acer platanoides* (Norway maple)  
*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Betula populifolia* (gray birch)  
*Carpinus caroliniana* (ironwood)  
*Carya cordiformis* (bitternut hickory)  
*Carya ovata* (shagbark hickory)  
*Carya tomentosa* (mockernut hickory)  
*Castanea dentata* (American chestnut)  
*Cornus florida* (flowering dogwood)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Hamamelis virginiana* (staghorn sumac)  
*Ilex opaca* (American holly)  
*Juglans nigra* (black walnut)  
*Juniperus virginiana* (red cedar)  
*Liriodendron tulipifera* (tulip tree)  
*Malus* spp. (crabapple)  
*Nyssa sylvatica* (tupelo)  
*Pinus strobus* (white pine)  
*Platanus occidentalis* (American sycamore)  
*Populus deltoids* (cottonwood)  
*Populus grandidentata* (big-toothed aspen)  
*Prunus serotina* (black cherry)  
*Prunus virginiana* (choke cherry)  
*Quercus alba* (white oak)  
*Quercus prinus* (chestnut oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Salix* spp. (willow)  
*Sassafras albidum* (sassafras)  
*Tsuga canadensis* (eastern hemlock)  
*Ulmus americana* (American elm)

#### **Shrubs:**

*Alnus serrulata* (smooth [common] alder)  
*Berberis thunbergii* (Japanese barberry)  
*Chimaphila maculata* (pipsissewa, spotted/striped wintergreen)  
*Clethra alnifolia* (pepperbush)  
*Comptonia peregrina* (sweet fern)  
*Cornus amomum* (silky dogwood)  
*Cornus racemosa* (gray stemmed dogwood)  
*Euonymus alatus* (winged euonymus)  
*Hamamelis virginiana* (witch hazel)  
*Kalmia latifolia* (mountain laurel)

*Lindera benzoin* (spicebush)  
*Lonicera morrowii* (Morrow's honeysuckle)  
*Myrica pensylvanica* (bayberry)  
*Rhododendron periclymenoides* (pinxter)  
*Rhodotypos scandens* (jetbead)  
*Rhus typhina* (staghorn sumac)  
*Rosa multiflora* (multiflora rose)  
*Rubus flagellaris* (dewberry)  
*Rubus phoenicolasius* (wineberry)  
*Rubus* spp. (blackberry)  
*Salix discolor* (pussy willow)  
*Spiraea alba* (meadowsweet)  
*Vaccinium angustifolium* (low-bush blueberry)  
*Vaccinium corymbosum* (high-bush blueberry)  
*Viburnum acerifolium* (maple leaf viburnum)  
*Viburnum sieboldii* (Siebold viburnum)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Lonicera japonica* (Japanese honeysuckle)  
*Mitchella repens* (partridge berry)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Alliaria petiolata* (garlic mustard)  
*Anemone nemorosa* (wood anemone)  
*Aralia nudicaulis* (sarsaparilla)  
*Arisaema triphyllum* (Jack-in-the-pulpit)  
*Artemisia vulgaris* (common mugwort)  
*Aster divaricatus* (white wood aster)  
*Barbarea vulgaris* (winter cress/yellow rocket)  
*Cardamine diphylla* (*Dentaria diphylla*) (toothwort)  
*Cardamine impatiens* (narrowleaf bittercress)  
*Caulophyllum thalictroides* (blue cohosh)  
*Chelidonium majus* (celandine)  
*Chimaphila maculata* (spotted wintergreen)  
*Claytonia virginica* (spring beauty)  
*Cypripedium acaule* (pink lady's-slipper)  
*Erythronium americanum* (trout lily)  
*Filipendula ulmaria* (meadowsweet)  
*Fragaria virginiana* (wild strawberry)  
*Galium aprine* (cleavers)  
*Geranium maculatum* (wild geranium)  
*Hesperis matronalis* (dame's rocket)  
*Impatiens capensis* (orange jewelweed)  
*Maianthemum canadense* (Canada mayflower)  
*Mitchella repens* (partridgeberry)

*Nabalus serpentarius* (lions foot)  
*Panax trifolius* (dwarf ginseng)  
*Polygonatum biflorum* (true Solomon's seal)  
*Polygonum cuspidatum* (Japanese knotweed)  
*Polygonum persicaria* (lady's thumb)  
*Potentilla simplex* (common cinquefoil)  
*Pyrola elliptica* (shinleaf)  
*Ranunculus abortivus* (kidneyleaf buttercup)  
*Rumex* spp. (dock)  
*Sanguinaria canadensis* (bloodroot)  
*Solidago Canadensis* (Canada goldenrod)  
*Symplocarpus foetidus* (skunk cabbage)  
*Thalictrum pubescens* (tall meadow rue)  
*Thalictrum thalictroides* (rue anemone)  
*Trillium erectum* (red trillium)  
*Typha latifolia* (common cattail)  
*Uvularia sessilifolia* (sessile bellwort)  
*Varatrum viride* (false hellebore)

#### **Sedges & Rushes:**

*Carex blanda* (woodland sedge)  
*Carex pensylvanica* (Pennsylvania sedge)  
*Carex plantaginea* (seersucker sedge)  
*Carex stricta* (tussock sedge)

#### **Grasses:**

*Panicum clandestinum* (deer-tongue grass)  
*Phragmites australis* (giant reed grass)  
*Schizachyrium scoparium* (little bluestem)

#### **Ferns and allies:**

*Athyrium filix-femina* (lady fern)  
*Dennstaedtia punctilobula* (hay-scented fern)  
*Dryopteris carthusiana* (spinulose wood fern)  
*Epifagus americana* (beech drops)  
*Lycopodium obscurum* (ground pine)

*Onoclea sensibilis* (sensitive fern)  
*Osmunda cinnamomea* (cinnamon fern)  
*Polypodium vulgare/ virginianum* (rock polypody, rock cap fern)  
*Polystichum acrostichoides* (Christmas fern)  
*Thelypteris noveboracensis* (New York fern)  
*Thelypteris palustris* (marsh fern)

#### **Birds- observed:**

*Ardea herodias* (great blue heron)  
*Chaetura pelasgica* (chimney swift)  
*Melanerpes carolinus* (red-bellied woodpecker)  
*Colaptes auratus* (yellow-shafted flicker)

*Picoides pubescens* (downy woodpecker)  
*Myiarchus crinitus* (great crested flycatcher)  
*Sayornis phoebe* (eastern phoebe)  
*Cyanocitta cristata* (blue jay)  
*Corvus brachyrhynchos* (American crow)  
*Parus atricapillus* (black-capped chickadee)  
*Parus bicolor* (tufted titmouse)  
*Sitta carolinensis* (white-breasted nuthatch)  
*Thryothorus ludovicianus* (Carolina wren)  
*Dumetella carolinensis* (gray catbird)  
*Turdus migratorius* (American robin)  
*Hylocichla mustelina* (wood thrush)  
*Dendroica petechia* (yellow warbler)  
*Geothlypis trichas* (common yellowthroat)  
*Agelaius phoeniceus* (red-winged blackbird)  
*Quiscalus quiscula* (common grackle)  
*Cardinalis cardinalis* (northern cardinal)

**Amphibians and Reptiles-observed:**

*Rana sylvatica* (wood frog)

## INDIAN LEDGE PARK

JUNE 17, 2020 Field Surveys

**CONSERVATION VALUES** include: Mature trees, interior forests, more than twenty acres of hemlock groves, rare orchids, hiking trails, wetlands, vernal pools, seeps, seven or more streams feeding the Pequonnock River, riparian zones, greenways connecting with Pequonnock River Valley Park, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for nature study and scenic vistas.

The 105-acre town-owned Indian Ledge Park lies in the center of Trumbull (see Location Map page 74) and is adjacent and to the northeast of the 382-acre Pequonnock River Valley Park/Pequonnock River Valley Wildlife Area (see Surrounding Open Space Map page 80). Access to the park is along the south side of Whitney Avenue.

The Park is surrounded by the Pequonnock River Valley Park to the west and south, route 25 to the east and Whitney Avenue to the north (see Satellite Photograph Map page 75).

Indian Ledge Park is the most utilized park in Trumbull and has numerous facilities including several athletic fields, playgrounds, picnic areas, lawn and a dog park along with a large, 14-acre sand and gravel storage site for the highway department. The remaining 70 acres are wooded (see Satellite Photograph Map page 75).

At least 7 streams flow through the park and into the Pequonnock River immediately to the west and south. Two of the streams and the stream sediment have an unusual copper color which may be naturally occurring due to minerals and tannins or may be due to pollution from retention ponds along route 25 (see Streams & Wetlands Map page 78 and



Park entrance on Whitney Avenue

Ecological Communities Map page 79). Elevations drop from 370 feet above sea level at the northeastern edges of Indian Ledge Park down to 250 feet in elevation along the western boundary (see Elevations Map page 76 and Topographic Map page 77). Elevations continue sloping down from there into the Pequonnock River located 450 feet west of the Park. Due to the Park's heavy recreational use and use by the highway department, special care is required to ensure that runoff into the Pequonnock River is limited, especially since much of the Pequonnock River is polluted. The Pequonnock River's amounts of Total Suspended Solids exceed regulatory guidelines<sup>59</sup> and approximately 80% of the River does not meet minimum standards for recreation or habitat for fish, other aquatic life, and wildlife.<sup>60</sup>

### ECOLOGICAL COMMUNITIES:

Ridges run north to south through the Park, dividing the Park into two different biological communities. In the lower, western section (generally below 300 feet above sea level) hemlock and tulip trees are common while oak and beech trees are dominant in the higher elevations of the eastern section of the Park.

The Pequonnock River Valley Park has the following ecological communities (see Ecological Communities Map page 79 and Plant Inventory page 82):

### HEMLOCK GROVES: 20 acres

Hemlock groves constitute approximate 20 acres of the Park. As is the case across the eastern United States, some of these hemlocks are suffering from wooly adelgid infection caused by the non-native aphid that first appeared in Connecticut in 1992. Fortunately, many of the Park's hemlocks are still healthy.

Eastern hemlocks are one of the most ecologically important tree species in the northeastern forests and especially critical for the Park since they comprise so much of the tree canopy. They are extremely shade tolerant, grow in riparian (stream) areas, keep stream temperatures cool, prevent stream bank erosion, purify storm water and provide thermal protection in the winter for wildlife in addition to providing nesting, feeding and roosting

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<sup>59</sup> Pequonnock River Watershed Assessment, 2010, page 141.

<sup>60</sup> Pequonnock River Watershed Based Plan Executive Summary p. 1.

sites during the rest of the year. Hemlock trees provide food (through their seed cones) and habitat for more than 90 species of birds and many other types of wildlife.

As of 2020 wooly adelgid infestations appear to be slowing and hemlocks are recovering at least temporarily. Experts at the Connecticut Agricultural Experiment Station and Cornell University attribute this to either weather (cold winter spells coupled with wet summers) or to the successful release of a biocontrol insect, *Sasajiscymnus tsugae*. Cornell scientists recommend the continued use of the systemic insecticides imidacloprid and dinotefuran<sup>61</sup> while Connecticut scientists believe such insecticides may do more harm than good.<sup>62</sup> The best practice would therefore be to monitor the health of the Park's hemlocks and if they decline consider treatment while removing any dying trees that pose a safety hazard to hikers and leaving other dead hemlocks standing for wildlife.

In addition to hemlock trees, tulip trees are common in these lower elevation sections. Other trees found here include red maple, white oak, red oak and black birch. Yellow and black birch grow in the understory. Shrubs include mountain laurel, and witch hazel; wood ferns and white wood aster make up the ground layer.

### OAK-BEECH FOREST: 20 acres

This plant community is at higher and drier elevations and includes black and red oaks, beech and black birch. Beech saplings and smaller hemlocks grow in the understory in some parts. Shrubs include witch hazel, mountain laurel, low bush blueberry and in wetter areas, clethra (sweet pepperbush). Wood and hay-scented ferns, Canada mayflower, white wood asters and sassafras grow in the ground layer.

### CHESTNUT OAK FOREST: 10 acres

Chestnut oak trees grow in the far eastern sections of the Park. Other trees include black oak and black birch. Mountain laurel is the common shrub in this stand along with some witch hazel and low and high bush blueberry shrubs. The ground cover is sparse and rocky with some rare pink lady slipper orchids found in the extreme northeast section of the Park.

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<sup>61</sup> Cornell University Cooperative Extension Forest Entomologist Mark Whitmore, personal communication

<sup>62</sup> Connecticut Agricultural Experiment Station Research Entomologist Carol Cheah, personal communication

## WETLANDS, STREAMS &amp; PONDS: 20 acres

A large, 10-acre wetland is found in the southern section of the Park. The red trail, which continues into the Pequonnock River Valley Park, runs through the center of the wetland. The wetland has white and red oaks west of the hiking trail and tupelo, sycamore and shagbark hickory east of the trail. Clethra (sweet pepperbush) and blueberry shrubs grow in the shrub layer with sarsaparilla in the ground layer.

This wetland provides important ecological functions including removing pollutants and sediments—an important function since the Pequonnock River has amounts of Total Suspended Solids that exceed regulatory guidelines<sup>63</sup>. The wetland also controls downstream flooding and provides wildlife habitat.

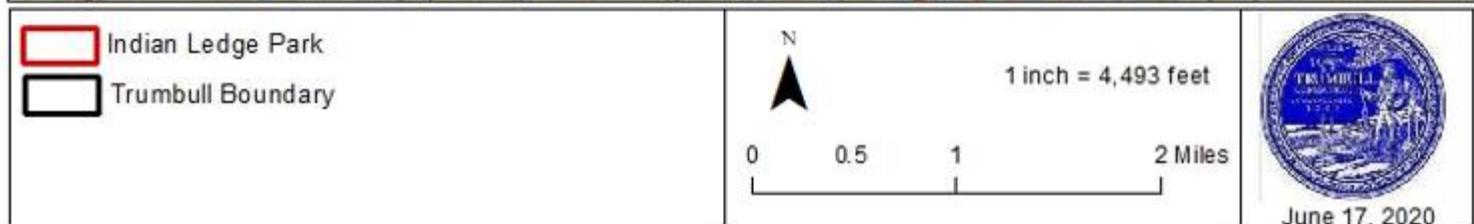
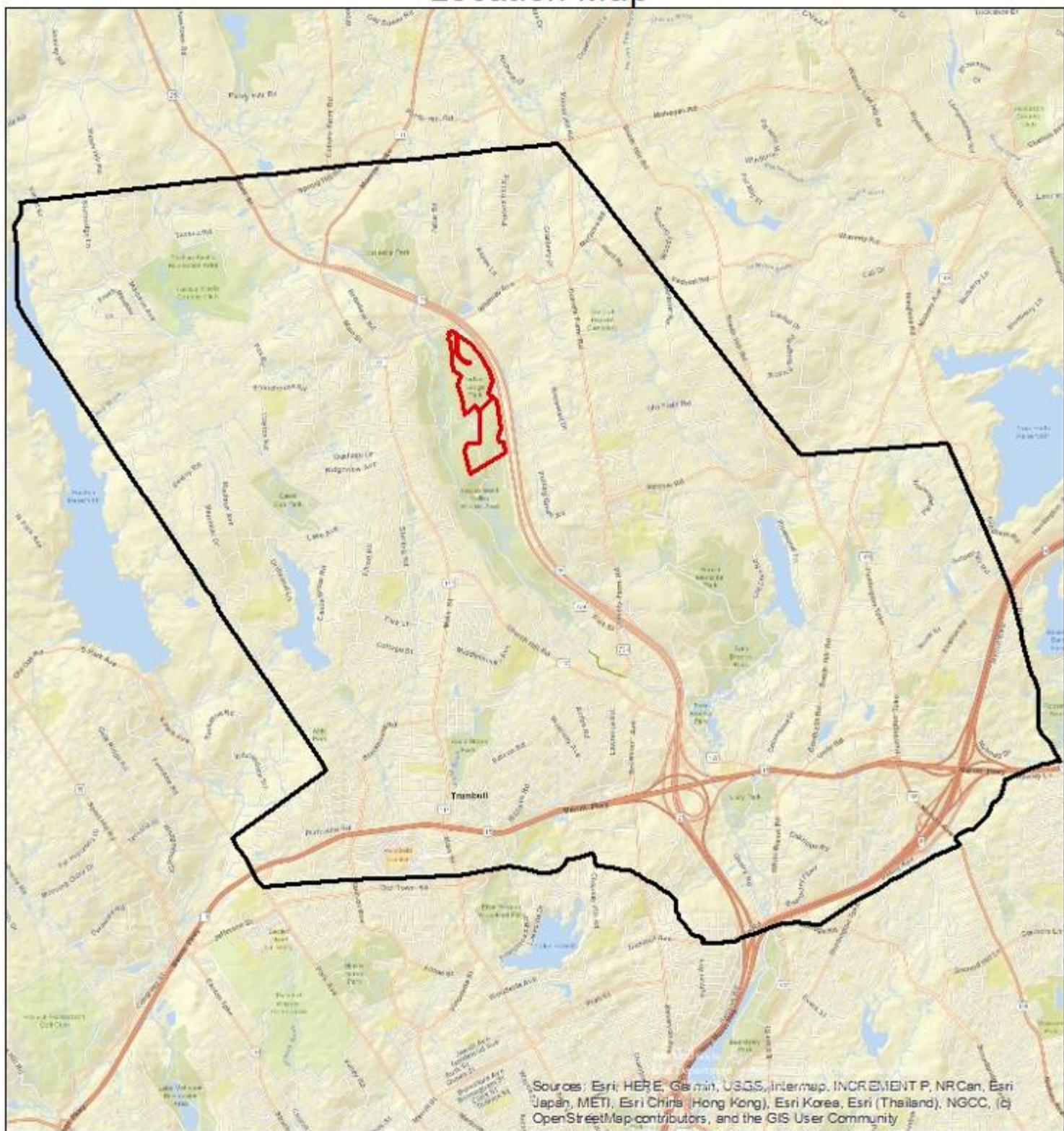
A small retention pond, built perhaps when Route 25 was built, is found just outside of the eastern edge of the Park. The stream flowing out of this man-made pond has a deep copper color. Surprisingly, a smaller stream running parallel to it is not discolored, suggesting that the source of the discoloration is upstream in the retention pond. Another stream flowing near the dog park is also copper colored. This may be due to leaching of minerals when the ledges in the Park were excavated to build facilities or it may have natural causes. The streams are typically shaded by hemlock, yellow birch and spice bush shrubs.



Copper colored water and sediments flow into the Pequonnock River to the west

<sup>63</sup> Pequonnock River Watershed Assessment, 2010, page 141.

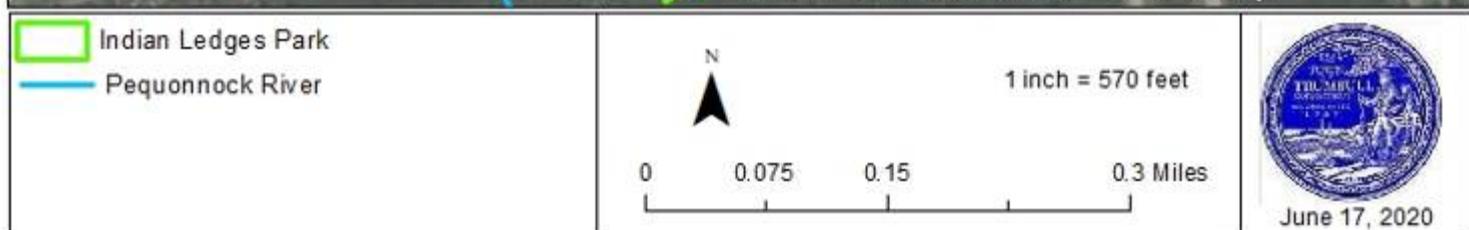
# Indian Ledge Park Location Map



# Indian Ledges Park Satellite Photograph Map



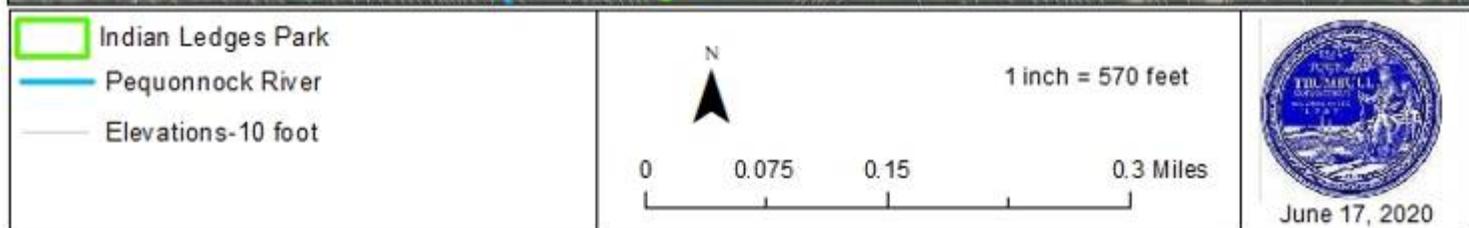
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



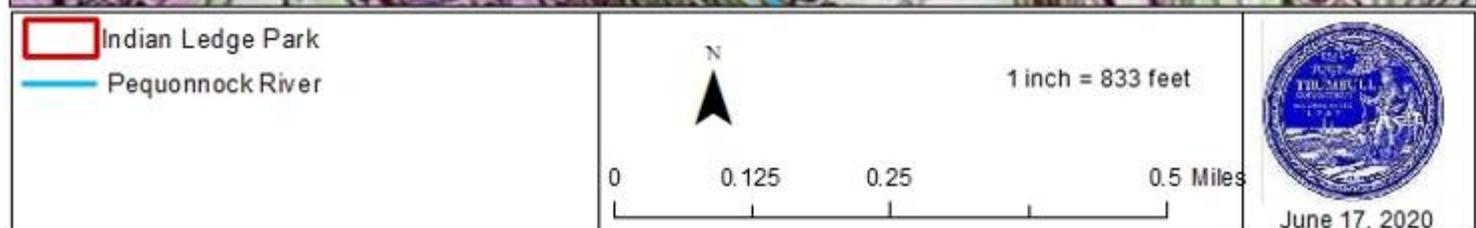
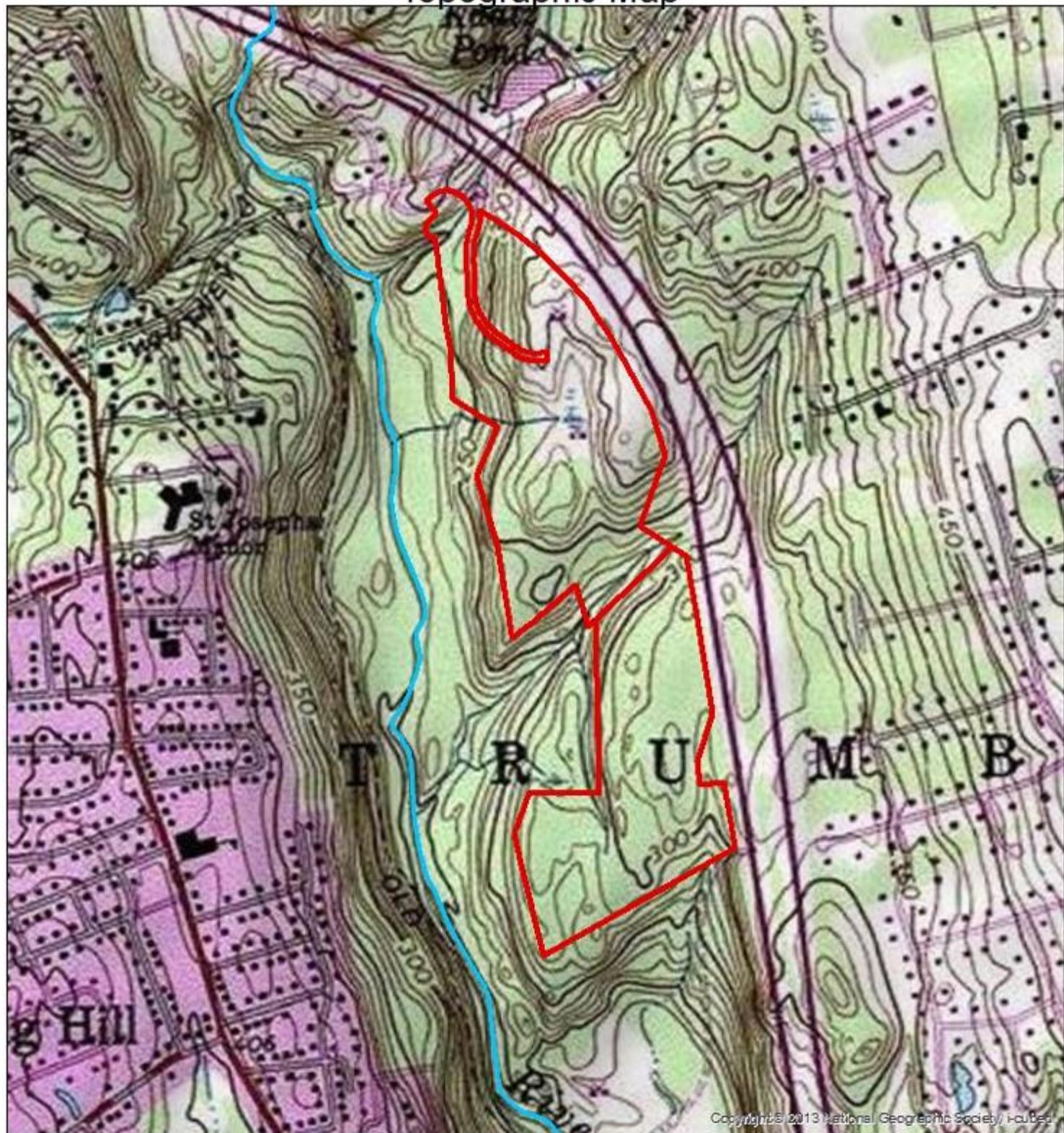
# Indian Ledges Park Elevations Map



Owned, Built, Maintained, Operated, Developed, Conserved, Preserved by the Town of Lodi,  
Under a Use Agreement with the City of Lodi, and the City of Lodi Community



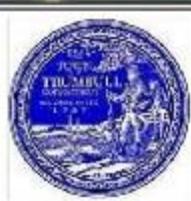
# Indian Ledge Park Topographic Map



# Indian Ledge Park Streams & Wetland Soils Map



Indian Ledge Park
Pequonnock River
Streams
Wetland Soils
Ponds



June 17, 2020

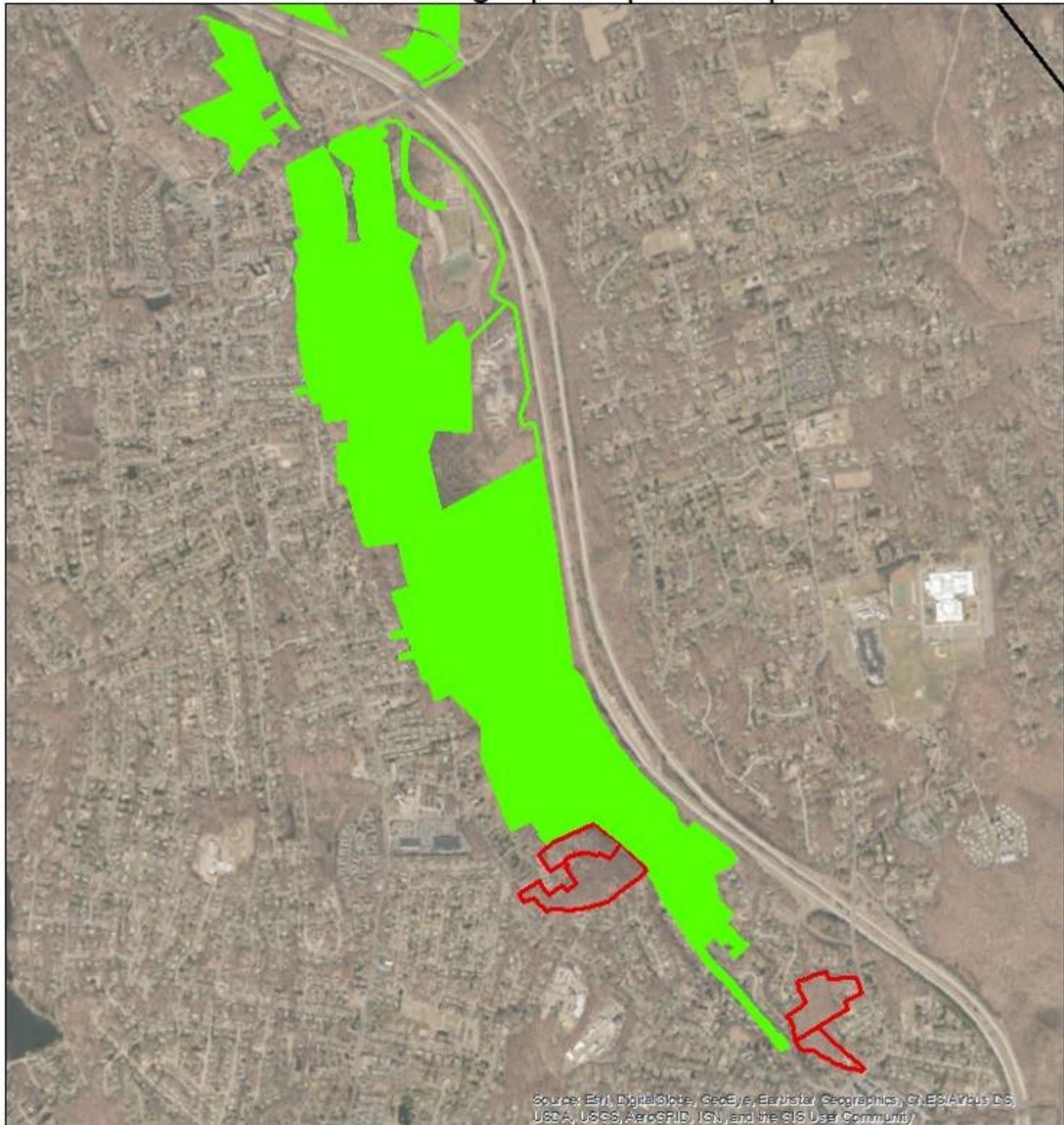
# Indian Ledge Park Ecological Communities Map



Copyright 2011, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, Use A, Use B, Aerogrid, Telrad, and the USGS User Community



## Indian Ledge Park Surrounding Open Space Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<ul style="list-style-type: none"><li>Indian Ledge Park</li><li>Open Space</li><li>Priority Acquisition Parcels per Pequonnock River Watershed Management Plan</li></ul>	<p>N</p>  <p>0 0.25 0.5 1 Miles</p> <p>1 inch = 1,626 feet</p>	 <p>June 17, 2020</p>
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## INDIAN LEDGE PARK

### THREATS:

- Water pollution-copper colored water entering the Pequonnock River
- Development/clearing along the south side of highway department site
- Lack of Land Regulation/Enforcement
- Wooly adelgid threatening hemlocks
- Litter including many tires discarded

### RECOMMENDATIONS:

- Monitor water quality in discolored streams to determine if coloration is natural or a pollutant
- Remove the many large tires in the woods north of the bike course
- Monitor hemlocks-remove dead trees that present safety hazards; leave dead trees standing for wildlife. Consider treating some hemlocks if disease accelerates
- Stabilize cleared stream area at south side of highway department site that now is covered in wood chips
- Revegetate with native plants to protect stream, replacing the 6 or more large oaks that have been killed by the clearing
- Replace trees cut down at dog park with native trees planted around the outside of the dog park for shade



Trees could be planted to shade the dog park



Cleared embankment could be stabilized with native vegetation to protect the nearby stream

## PLANT INVENTORY-June 17, 2020 Field Surveys

**Trees:**

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carya cordiformis* (bitternut hickory)  
*Carya ovata* (shagbark hickory)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Juniperus virginiana* (red cedar)  
*Liriodendron tulipifera* (tulip tree)  
*Nyssa sylvatica* (tupelo)  
*Platanus occidentalis* (American sycamore)  
*Populus deltoids* (cottonwood)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus prinus* (chestnut oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Sassafras albidum* (sassafras)  
*Tsuga canadensis* (eastern hemlock)

**Shrubs:**

*Clethra alnifolia* (pepperbush)  
*Hamamelis virginiana* (witch hazel)  
*Kalmia latifolia* (mountain laurel)  
*Lindera benzoin* (spicebush)  
*Rosa multiflora* (multiflora rose)  
*Rubus flagellaris* (dewberry)  
*Rubus phoenicolasius* (wineberry)  
*Vaccinium angustifolium* (low-bush blueberry)  
*Vaccinium corymbosum* (high-bush blueberry)  
*Viburnum acerifolium* (maple leaf viburnum)

**Vines:**

*Mitchella repens* (partridge berry)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Aralia nudicaulis* (sarsaparilla)  
*Arisaema triphyllum* (Jack-in-the-pulpit)  
*Artemisia vulgaris* (common mugwort)  
*Aster divaricatus* (white wood aster)  
*Chimaphila maculata* (spotted wintergreen)  
*Cypripedium acaule* (pink lady's-slipper)

*Impatiens capensis* (orange jewelweed)  
*Maianthemum canadense* (Canada mayflower)  
*Polygonatum biflorum* (true Solomon's seal)  
*Potentilla simplex* (common cinquefoil)  
*Solidago Canadensis* (Canada goldenrod)  
*Symplocarpus foetidus* (skunk cabbage)  
*Varatrum viride* (false hellebore)

**Sedges & Rushes:**

*Carex blanda* (woodland sedge)  
*Carex pensylvanica* (Pennsylvania sedge)

**Ferns and allies:**

*Athyrium filix-femina* (lady fern)  
*Dennstaedtia punctilobula* (hay-scented fern)  
*Dryopteris carthusiana* (spinulose wood fern)  
*Lycopodium obscurum* (ground pine)  
*Osmunda cinnamomea* (cinnamon fern)  
*Polystichum acrostichoides* (Christmas fern)  
*Thelypteris noveboracensis* (New York fern)

June 29, July 7, 2020 Field Surveys

CONSERVATION VALUES include: Intact forests, some areas never cleared or farmed around the mine sites, two habitat types that are deemed Critical Habitat Areas by CT DEEP, interior forests, hemlocks, extensive hiking trails, at least two hilltop summits, wetlands, vernal pools, seeps, riparian zones, floodplain forests, sections of the Pequonnock River, restored streambank with native garden, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for nature study and geology study at old mine site and at least two scenic viewing areas.

The 100-acre Old Mine Park lies in the north-central section of Trumbull (see Location Map page 96). The largest parcel in the Park was turned over to the Town of Trumbull in 1937 from the Long Hill Mining Company in lieu of back taxes. The mine is listed on the National Register of Historic Places and was the first mine in North America to produce tungsten and topaz. The Park's first inhabitants were Paleo-American hunter gatherers 7,000 to 8,000 years ago. Pequonnock native Americans of the Paugussett Nation formed the first permanent settlements around 3,000 years ago.

Access and parking are found at Old Mine Road off Route 111. The Pequonnock River Trail runs along the Park's southern boundary for 0.50 miles. The Park is surrounded by Home Depot to the north, Route 25 and the Pequonnock River to the west and single family homes to the east (see Satellite Photograph Map page 97).

The Pequonnock River flows along the Park's southern boundary for 0.55 miles. The Park's nearly 100 acres of woods buffer and filter the Pequonnock River which is especially important as much of the Pequonnock River is polluted. The River's amounts of Total Suspended Solids exceed regulatory guidelines<sup>64</sup> and approximately 80% of the River does not meet minimum standards for recreation or habitat for fish, other aquatic life, and wildlife (see Pequonnock River Water Pollution Map page 13 [Part I]). The "impaired" or polluted sections of the Pequonnock River include the lower two-thirds of the river through most of Trumbull and Bridgeport which do not meet standards for supporting a healthy macroinvertebrate community due to unknown causes and sources.<sup>65</sup> Sampling of

<sup>64</sup> Pequonnock River Watershed Assessment, 2010, page 141.

<sup>65</sup> Pequonnock River Watershed Based Plan Executive Summary p. 1.

## OLD MINE PARK

macroinvertebrates via kick net collection methods was performed by CTDEEP in 1997, 2000 and 2007 at Unity Park and at the Route 111 bridge just north of Old Mine Park. For all sampling events at both stations, the calculated MMI (an index of macroinvertebrate insects reflecting water quality) fell below the target value of 50, indicating the basis of the aquatic life impairment designation. Two streams flow north to south through the Park, flowing into the Pequonnock River. Wetlands are found in the center of the park and along both sides of the Pequonnock River (see Streams & Wetlands Map page 100).

Elevations fall from a peak elevation of 480 feet above sea level at the Park's northern boundary to a low point of 280 at the Pequonnock River along the Park's southern boundary. Two summits, each 320 feet in elevation, provide scenic overlooks in the center of the Park. Steep slopes line the Park's eastern section where elevations drop over 100 feet over a short distance (see Elevations and Topographic Maps pages 98 & 99).

Old Mine Park's facilities include two pavilions with picnic areas, restrooms, a River-Walk bridge, the Phoebe Meadow multi-purpose field, portions of the Pequonnock River Trail and many historic mine sites marked with numbered posts (see Mining History photographs pages 93). Despite the numerous facilities, one can hike on trails through nearly 100 acres of a relatively untouched, pristine forest rich in biodiversity and seldom encounter other visitors (see Plant Inventory page 108 and Satellite Photograph map page 97).



Steep hillside along Park's eastern boundary

### ENVIRONMENTAL COMMUNITIES:

The Old Mine Park has two habitat types that are deemed Critical Habitat Areas by Connecticut DEEP (see Critical Habitat Areas map page 104). Critical habitat areas are among the most rare, unique, and threatened habitats in Connecticut. Because of their geology and soils critical habitats support uncommon ecological communities. Critical

## OLD MINE PARK

habitat status indicates that a property is likely to be a desirable, interesting destination for recreation, and a potential site for nature study and/or scientific investigations<sup>66</sup> and that is certainly the case in this park. The larger eastern Area is a dry sub-acidic forest, ash-hickory glade which is characterized by slow-growing forests, primarily on or near summits and often dominated by white ash, hickories and hophornbeam, with few shrubs and an open grassy ground cover. The smaller western Area is classified as sub-acidic rocky summit/outcrop, grassy glade/bald which has dry exposed summits, ledges, and other outcrops with a vegetation of small trees, low shrubs, grasses and herbs (see DEEP letter, pages 105).

This 100-acre forest block is very species-rich and remarkably free of invasive plants, indicating that this is a healthy, self-sustaining and mature forest that provides some of the only refuge in the area for insects, amphibians and reptiles, small mammals, nesting and migrating birds and other wildlife. This forest has remained pristine with dense ground layer and shrub layer plants perhaps because of the mining done here rather than agriculture. Although the mines and associated buildings required clearing, the forest around these areas may never have been cleared and plowed, leaving a rare, healthy, intact forest block.

Old Mine Park has the following Ecological Communities (see Ecological Communities Map page 101 and Plant Inventory page 108):

SUGAR MAPLE-BEECH FOREST: 45 acres

RIVER, STREAMS, WETLANDS, RIPARIAN: 20 acres

OAK-HICKORY FOREST: 18 acres

BASSWOOD FOREST: 12 acres

LAWN: 1 acre

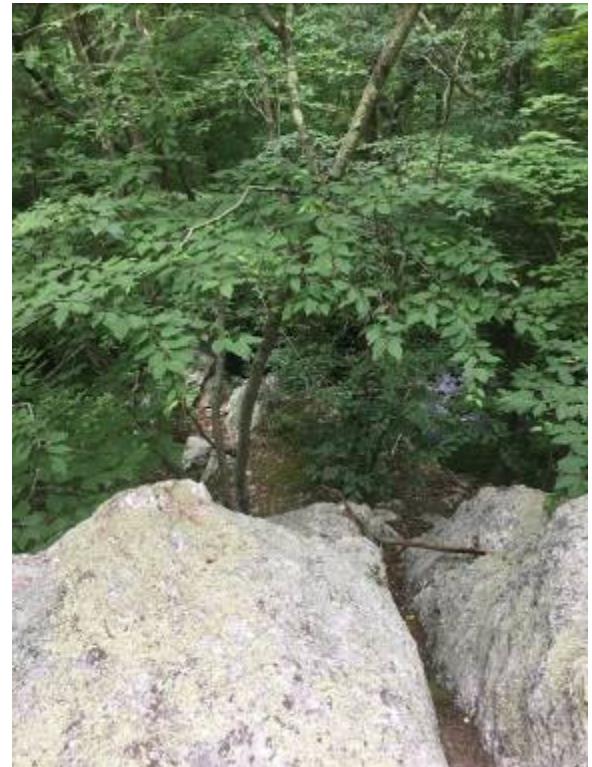
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<sup>66</sup> <https://caryaecological.com/2012/10/16/rich-critical-habitats-part-ii/>

### SUGAR MAPLE-BEECH FOREST: 45 acres

Sugar maple-beech stands are the most common plant community in the Park and are found in rich, moist soils at mid to high elevations throughout the Park. Other trees include white ash and tulip and red and white oaks. Hophornbeam grows in the understory along with a few small to medium sized hemlock and sugar maple saplings. Maple-leaf viburnum and spicebush are common shrubs.

The ground cover is extremely rich, perhaps because deer browse is not common and because the Park has never been cultivated and developed, except for spots where mining occurred. This has allowed the ground cover to thrive. Plants include dense stands of blue cohosh, baneberry, white wood and other asters, white snakeroot, horse balm, enchanter's nightshade, tick trefoil, honewort, wild ginger, wood nettles, woodland, star and broad-leaved sedges, woodland sunflower, Joe-Pye weed, sweet cicely, jump seed, bloodroot, deer tongue grass, cinnamon fern and wild onion.



Cliff/overlook above Pequonnock River

### OAK-HICKORY FOREST: 18 acres

Oak-hickory forests encompass both Critical Habitat Areas and are found in the highest, driest elevation areas of the park. Both overlooks which rise to 320 feet in elevation

as well as the area surrounding them are oak-hickory forests. White, red and black oaks are dominant along with sugar and red maples, black birch and mockernut, bitternut and shagbark hickories. Some oaks are quite large at 36 inches in diameter. Understory trees include hophornbeam along with sugar maple, hickory and elm saplings.



Bracken fern glade

Shrubs include mountain laurel, maple leaf viburnum, witch hazel and low bush blueberry. Ground cover plants are Canada mayflower, winterberry, partridgeberry, shinleaf, Christmas fern, Pennsylvania sedge, princess pine and rock polypody. A grove of bracken fern are found in the oak-hickory stand on a small knoll along the River Trail.

### BASSWOOD FOREST: 12 acres

This unusual, species-rich forest community grows in the very moist, lower elevations of the Park. Basswood is the dominant tree and typically indicates calcareous (non-acidic) soils. These soils are also conducive to a variety of spring ephemeral wildflowers. Also notable are the many bladdernut trees growing beneath the basswoods. Bladdernut trees also indicate nutrient-rich, calcareous soils. Other trees include sugar maple, white and red oak and shagbark hickory, beech and big tooth aspen. Understory trees include basswood, bladdernut, elm, sugar maple and hickory saplings along with ironwood and flowering dogwood trees-a tremendous variety. Shrubs include witch hazel, maple leaf viburnum and spicebush. The ground cover plants are equally species-rich and include asters, lionsfoot, honewort, tick-trefoil, Solomon's seal, jump seed, early meadow rue, star, Appalachian, woodland, seersucker and broad-leaved sedges, Christmas and marginal fern, wild lettuce, cow wheat, avens, horse balm, lopseed, white snakeroot, hog peanut and blue cohosh.



Bladdernut trees

### RIVERS, STREAMS, WETLANDS, RIPARIAN: 20 acres

#### PEQUONNOCK RIVER:

A dam forms the pond at Old Mine Park. The pond was a popular swimming area but was closed because of bacteria pollution. The dam is listed by Steve Gephard, Fisheries Biologist at CT DEEP, as a possible location for a fishway/fish ladder for diadromous fish (see Trumbull Fishway Possible Locations Map, page 103). Diadromous fish such as eel and alewife spend part of their life in the ocean and part of their life in freshwater waterways, including the Pequonnock River. Such fish have experienced sharp population declines since the advent of river damming because dams block the migrating fish. Fishways allow some fish to migrate further upstream. A successful fishway was installed at nearby Bunnells Pond in Beardsley Park several years ago.



Pequonnock River/pond looking north above dam



Bunnells Pond fishway at Beardsley Zoo  
(photo Connecticut River Salmon Association)



Alewife, a native river herring  
(photo Connecticut River Salmon Association)

An attractive native garden has been planted between the parking lot and the pond where an educational kiosk stands as part of a streambank restoration project done in 2013 after a dredging project in 2010 degraded the streambank creating erosion and allowing sediments to flow into the river. This award-winning streambank restoration project is one of several model projects by the municipalities of Bridgeport, Trumbull and Monroe under the Pequonnock River Initiative to demonstrate the value of stormwater improvements and streambank restoration.

Trees include sweet bay magnolia, white oaks and sugar maples; shrubs include winterberry, inkberry, chokeberry and arrowwood, all native shrubs that are beneficial to wildlife. Perennials include woodland sunflowers and spiderwort. Unfortunately, non-native, invasive mugwort is invading this area and needs to be monitored and if spreading, treated to prevent it from ruining this attractive site. An educational kiosk encourages visitors and landowners to plant similar natives to help pollinators and similar streambank plantings by wetlands and watercourses.

The flowing parts of the Pequonnock River above and below the dam/pond have typical streamside plants dominated by red maple, cottonwood tulip, yellow birch, black birch, sassafras and sycamore trees with occasional flowering dogwood and black locusts and a few native American chestnut trees that are resprouting (American chestnut trees



Native plant garden with woodland sunflowers along Pequonnock River pond area



Pequonnock River below dam

were eliminated from eastern forests in the early 1900s by chestnut blight; some chestnuts continue to resprout, dying as they reach maturity). Streamside shrubs include alder, silky dogwood, elderberry, spicebush and witch hazel shrubs. Groundcover plants are jewelweed, Jack in the pulpit, clearweed, jumpseed, smartweed, avens, skunk cabbage, cinnamon, sensitive and lady fern, true forget-me-not and wood nettles.

Because the river is heavily visited as is near the Pequonnock River Trail, many non-native, invasive shrubs dominate the area between the trail and the river including large patches of Japanese knotweed along with burning bush and honeysuckle. While these invasives may be too established to eliminate, the mature forest north of the river may be impenetrable to invasives. This area should be monitored to be sure the invasive plants do not spread and if so, that they be treated to control them.

Wetlands and other watercourses total approximately 20 acres or 20% of the Parks' area. The Park's wetlands provide important ecological functions including removing pollutants and sediments—an important function since much of the Pequonnock River is polluted (see Pequonnock River Water Pollution Map page 13 [Part I]). The River's amounts of Total Suspended Solids exceed regulatory guidelines<sup>67</sup> and approximately 80% of the River does not meet minimum standards for recreation or habitat for fish, other aquatic life, and wildlife.<sup>68</sup>

The Parks' wetlands also control flooding--especially important in Trumbull which has seen increased flooding in recent years as climate change increases the frequency and severity of rain events and development increases the amount of impervious surfaces. Wetlands also provide habitats for insects including pollinators, reptiles and amphibians, birds and other wildlife. The Parks' wetlands typically have a tree canopy of tulip, red maple, ash, sycamore, shagbark hickory and yellow birch trees, a shrub layer dominated by spicebush and a ground layer of skunk cabbage, blue cohosh, nettles, sensitive, lady and cinnamon fern, jewelweed, clearweed and Jack-in-the-pulpit plants.

Two streams flow north to south through the Park and into the Pequonnock River. The streams are typically shaded by red maple, ash and elm trees and spicebush shrubs with skunk cabbage in the ground layer. Forested seeps which flow out of the ground provide

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<sup>67</sup> Pequonnock River Watershed Assessment, 2010, page 141.

<sup>68</sup> Pequonnock River Watershed Based Plan Executive Summary p. 1.

## OLD MINE PARK

important ecological services in the park. Water temperatures stay a constant 45-50 degrees Fahrenheit throughout the year. In springtime, the constant supply of relatively warmer water typically results in early spring development of grasses and sedges around seeps. This early spring vegetation is an important source of food for emerging insects and other pollinators. The mild temperatures of seeps help to also moderate the temperature of the water into which the seep flows--keeping temperatures from becoming too warm in summer months. This creates a more hospitable environment for insects, reptiles, amphibians--including dusky and northern two-lined salamanders--trout and other cool-water fish and other wildlife.

## OLD MINE PARK

### MINING HISTORY PHOTOGRAPHS:



Champion lode



Main quarry

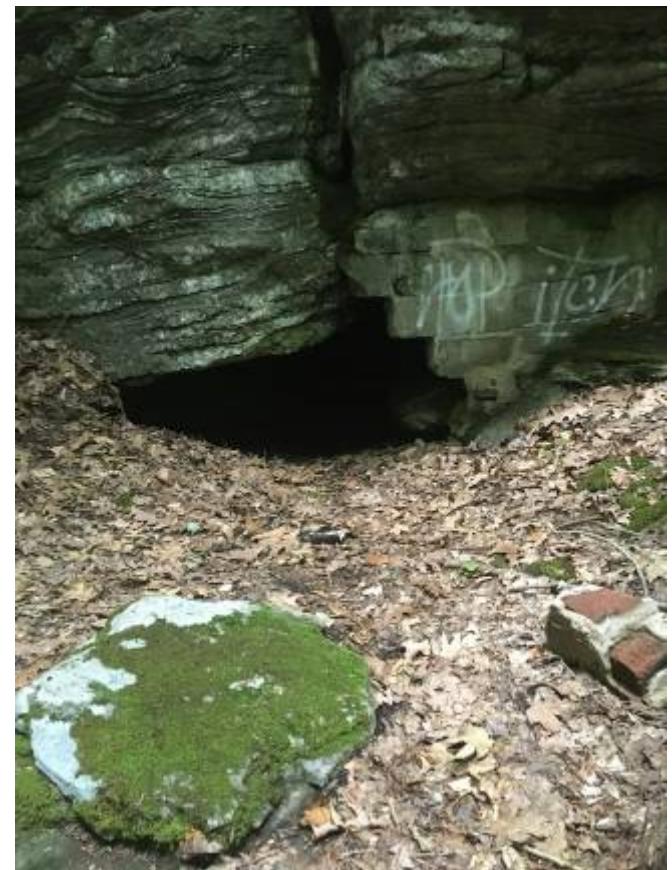


Quartz tailings and individual quartz rock

## OLD MINE PARK



Mine opening



Dynamite storage tunnel

## OLD MINE PARK

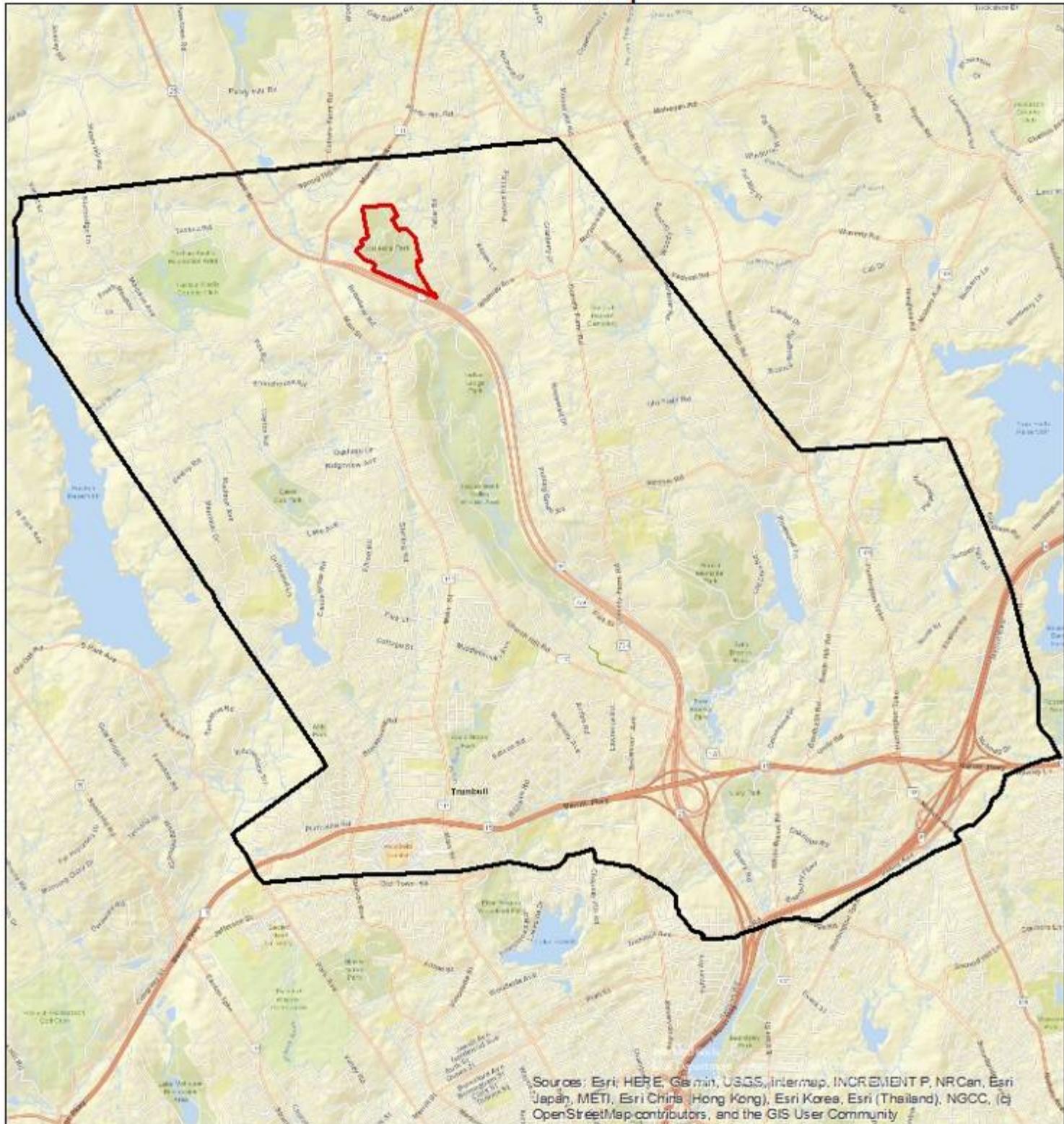


'Little Eden' spring

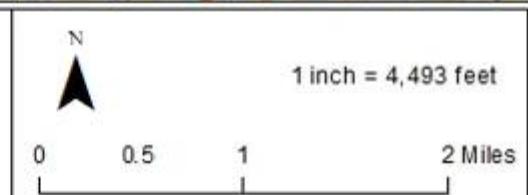
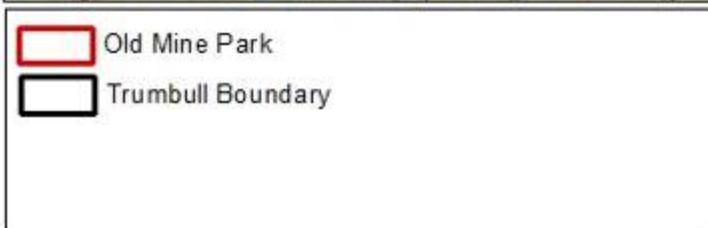


'Little Eden' spring well

# Old Mine Park Location Map



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

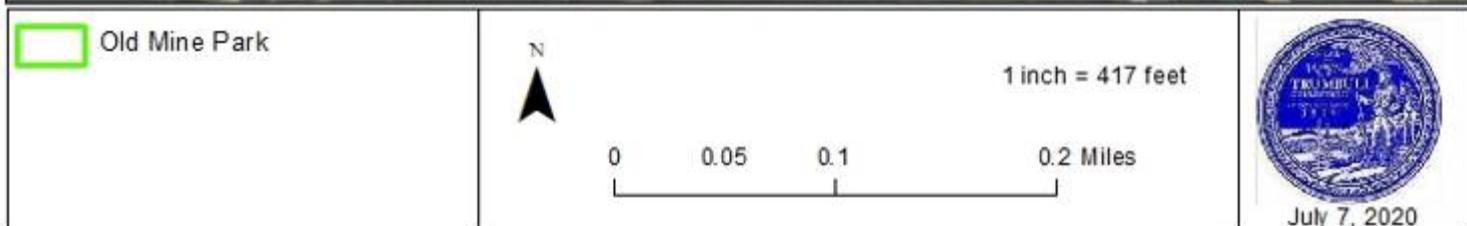


June 29, 2020

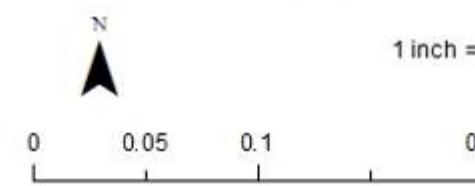
# Old Mine Park Satellite Photograph Map



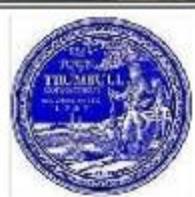
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# Old Mine Park Elevations Map



1 inch = 409 feet

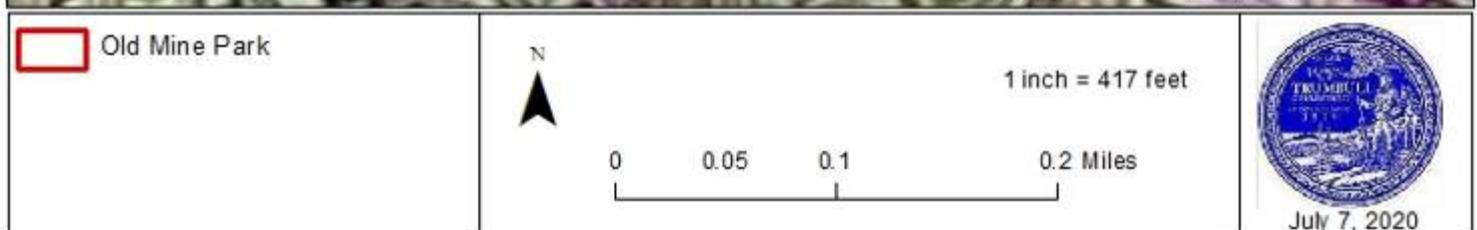


June 29, 2020

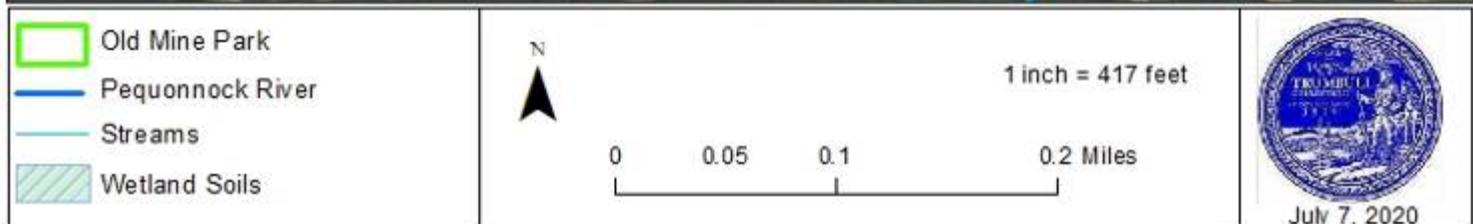
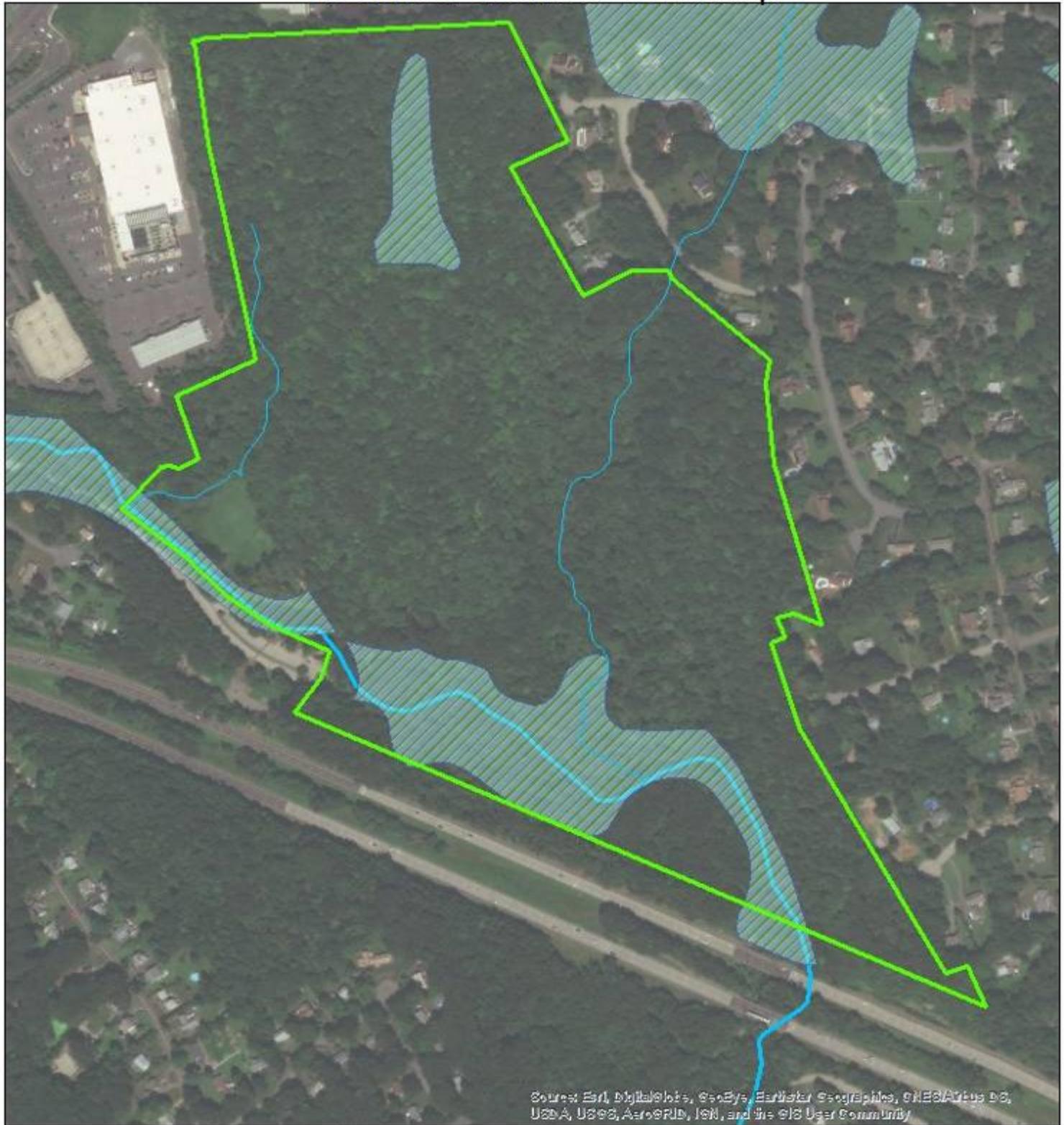
# Old Mine Park Topographic Map



Copyright © 2013 National Geographic Society. Published



# Old Mine Park Streams & Wetland Soils Map

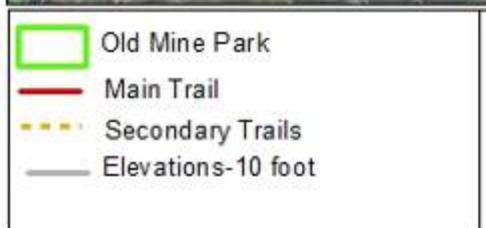


# Old Mine Park

## Ecological Communities Map



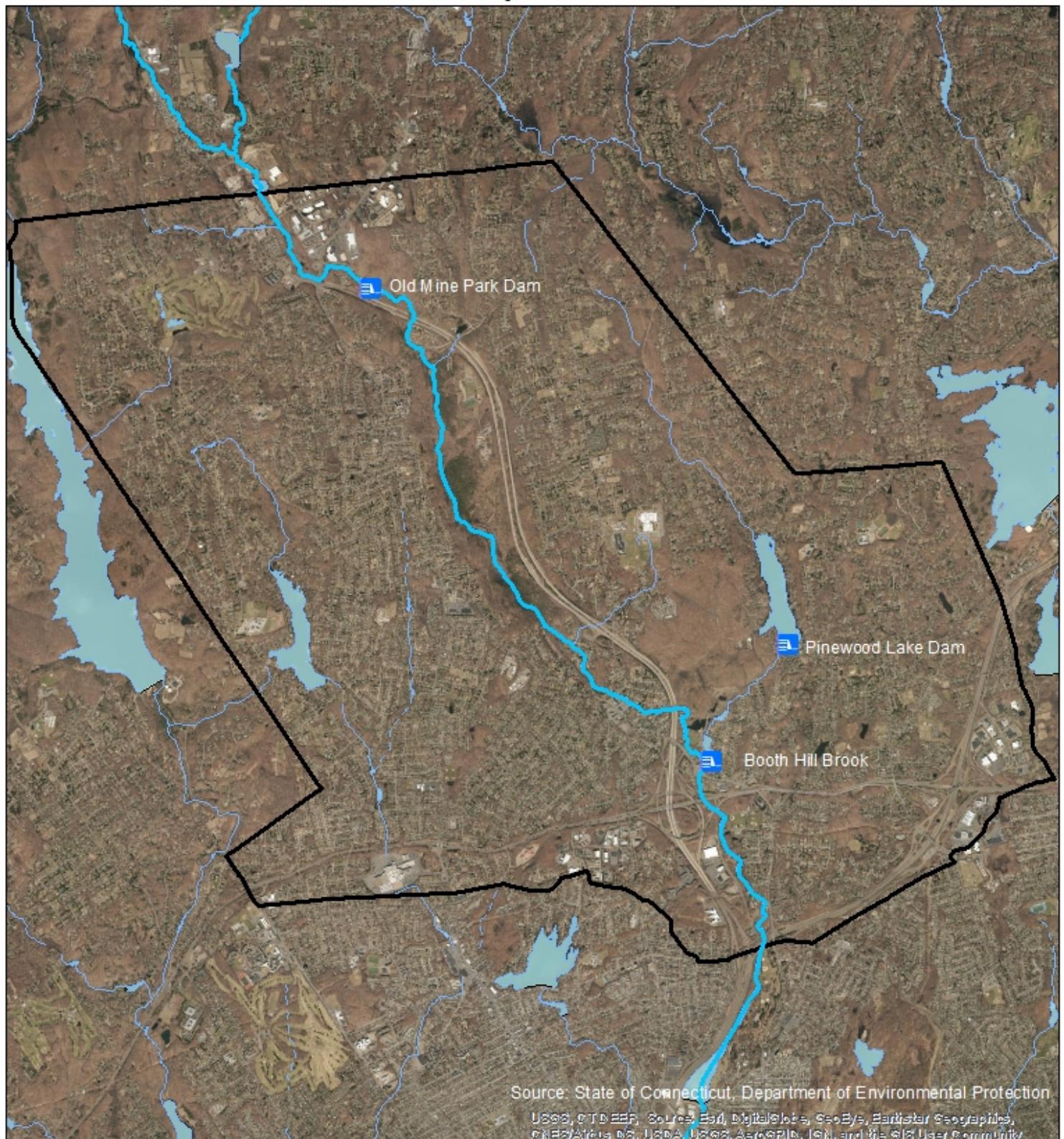
# Old Mine Park Trails Map



1 inch = 383 feet  
0 0.05 0.1 0.2 Miles



## Trumbull Fishway Possible Locations



# Critical Habitat Areas Map

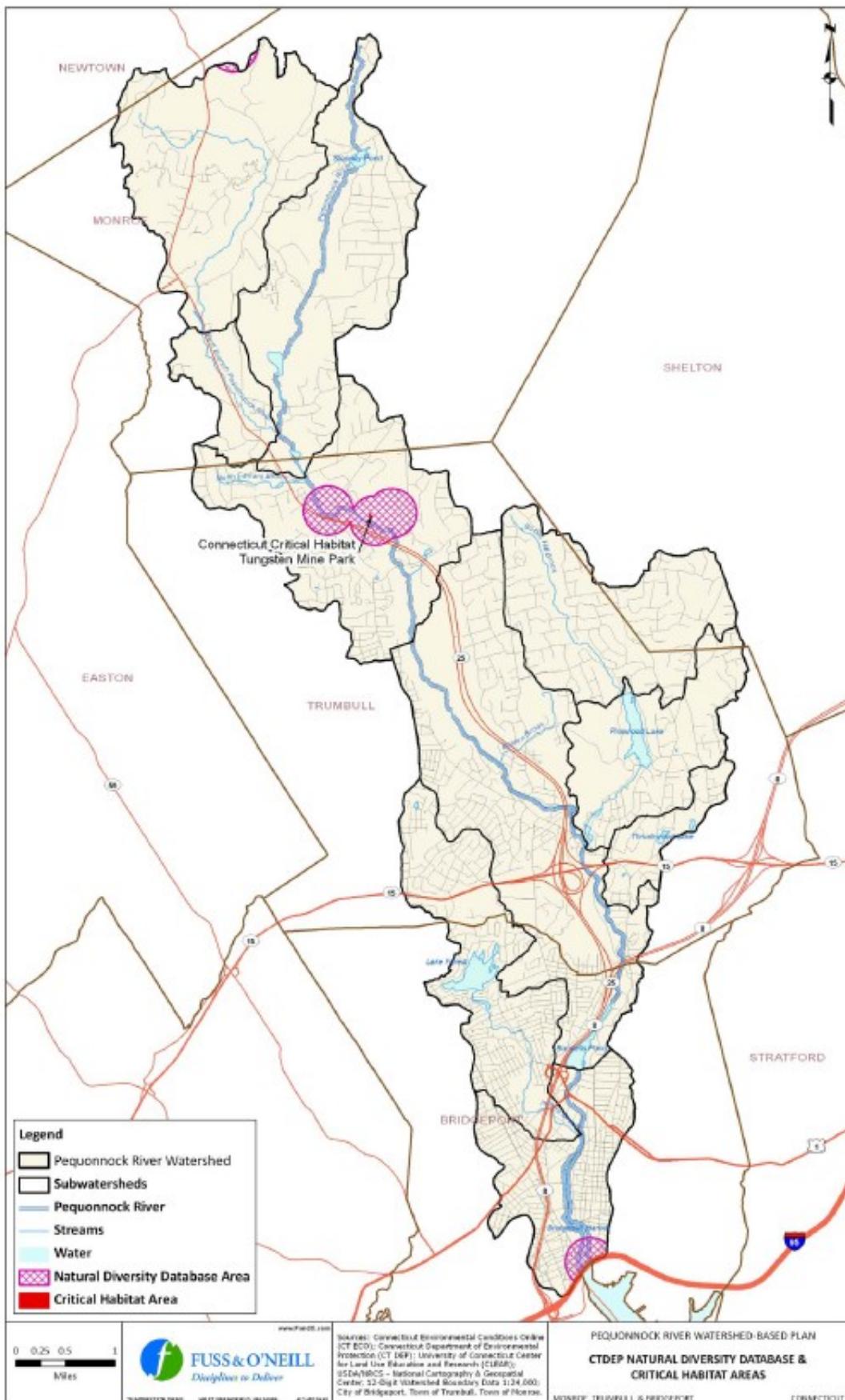


Figure 4-7. Natural Diversity Database and Critical Habitat Areas



April 23, 2020

James F. Nordgren  
387 Boston Post Rd  
Madison, CT 06443  
[jim@jnlandtrustservices.com](mailto:jim@jnlandtrustservices.com)

Project: Preliminary Assessment for Town of Trumbull Natural Resources Inventory, Old Mine Park,  
Route 111 and Route 25, Trumbull, Connecticut  
NDDB Preliminary Assessment No.: 202005255

Dear Mr. Nordgren,

I have reviewed Natural Diversity Database maps and files regarding the area delineated on the map provided for a preliminary assessment of Old Mine Park in Trumbull, Connecticut.

According to our records there are documented populations of the State Special Concern freshwater mussel, the Eastern pearlshell (*Margaritifera margaritifera*), that occur in the Pequonnock River in the vicinity of this property. The Critical Habitats Dry Subacidic Forest -Subtype Ash/Hickory Glade and Subacidic Rocky Summit/Outcrop -Subtype Grassy Glade/bald also occur on this property. Other Special Concern species of interest in the town of Trumbull include the Eastern box turtle (*Terrapene carolina carolina*) and the Nine-spotted lady beetle (*Coccinella novemnotata*). The State Threatened aquatic plant Toothcup (*Rotala ramosior*) occurs in Easton Reservoir. We have not visited this site. Depending on the habitat available, these or other species may be present on site. We recommend biological surveys be conducted as part of your planning in order to more completely assess the site. Please be advised that this is a preliminary review and not a final determination. A more detailed review will be necessary to move forward with any environmental permit applications submitted to DEEP for the proposed project. This preliminary assessment letter cannot be used or submitted with permit applications at DEEP. This letter is valid for one year.

To better evaluate the property and to guide site planning, field surveys of the site should be performed by a qualified biologist(s) with the appropriate scientific collecting permits at a time when these target species are identifiable. A report summarizing the results of such surveys should include:

1. Survey date(s) and duration
2. Site descriptions and photographs
3. List of component vascular plant and animal species within the survey area (including scientific binomials)
4. Data regarding population numbers and/or area occupied by State-listed species
5. Detailed maps of the area surveyed including the survey route and locations of State listed species
6. Conservation strategies or protection plans that indicate how impacts may be avoided for all state listed species present on the site
7. Statement/résumé indicating the biologist's qualifications. Please be sure when you hire a consulting qualified biologist to help conduct this site survey that they have the proper experience

with target taxon and have a CT scientific collectors permit to work with state listed species for this specific project.

The site surveys report should be sent to our CT DEEP-NDDB Program ([deep.nddbrequest@ct.gov](mailto:deep.nddbrequest@ct.gov)) for further review by our program biologists along with an updated request for another NDDB review. Incomplete reports may not be accepted.

If you do not intend to do site surveys to determine the presence or absence of state-listed species, then you should presume species are present and let us know how you will protect the state-listed species from being impacted by this project. You may submit these best management practices or protection plans with your new request for an NDDB review. After reviewing your new NDDB request form and the documents describing how you will protect this species from project impacts we will make a final determination and provide you with a letter from our program to use with DEEP-Permits.

Natural Diversity Database information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey, cooperating units of DEEP, landowners, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the NDDB should not be substitutes for onsite surveys necessary for a thorough environmental impact assessment. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits.

Please contact me if you have further questions at (860) 424-3378, or [karen.zyko@ct.gov](mailto:karen.zyko@ct.gov). Thank you for consulting the Natural Diversity Data Base.

Sincerely,



Karen Zyko  
Environmental Analyst

### THREATS:

- Water pollution-pond upstream of dam has had high levels of bacteria in the past
- Invasive plants-mugwort in native garden, Japanese knotweed, burning bush along streambank
- Many trails are unmarked
- Litter-Park is well maintained now and litter-free

### RECOMMENDATIONS:

- Remove invasive mugwort at streambank restoration site
- Monitor and if necessary remove invasive Japanese knotweed and burning bush from streamside
- Add trail blazes and signage to unmarked trails. Numbered posts need identification
- Add more educational signage around mine sites
- Encourage nature and geology study at mine sites
- Install fishway at Old Mine Park dam with CT DEEP assistance
- Continue to clean up trash
- Monitor water quality above dam that has had high bacteria levels in past

## OLD MINE PARK

### PLANT INVENTORY June 29 and July 7, 2020 Field Surveys

#### Trees:

*Acer platanoides* (Norway maple)  
*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Betula nigra* (river birch)  
*Carpinus caroliniana* (ironwood)  
*Carya cordiformis* (bitternut hickory)  
*Carya ovata* (shagbark hickory)  
*Carya tomentosa* (mockernut hickory)  
*Castanea dentata* (American chestnut)  
*Cornus florida* (flowering dogwood)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Liriodendron tulipifera* (tulip tree)  
*Morus alba* (white mulberry)  
*Ostrya virginiana* (hophornbeam)  
*Platanus occidentalis* (American sycamore)  
*Populus deltoids* (cottonwood)  
*Populus grandidentata* (big-toothed aspen)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Robinia pseudoacacia* (black locust)  
*Salix spp.* (willow)  
*Sassafras albidum* (sassafras)  
*Staphylea trifolia* (American bladdernut)  
*Tilia Americana* (basswood)  
*Tsuga canadensis* (eastern hemlock)  
*Ulmus americana* (American elm)

#### Shrubs:

*Alnus serrulata* (smooth [common] alder)  
*Aronia arbutifolia* (red chokeberry)  
*Berberis thunbergii* (Japanese barberry)  
*Chimaphila maculata* (pipsissewa, spotted/striped wintergreen)  
*Cornus amomum* (silky dogwood)  
*Elaeagnus umbellata* (autumn olive)  
*Euonymus alatus* (winged euonymus)  
*Hamamelis virginiana* (witch hazel)  
*Ilex verticillata* (winterberry)  
*Kalmia latifolia* (mountain laurel)  
*Lindera benzoin* (spicebush)  
*Lonicera morrowii* (Morrow's honeysuckle)  
*Rosa multiflora* (multiflora rose)  
*Rubus phoenicolasius* (wineberry)

*Sambucus canadensis* (black elderberry)  
*Vaccinium angustifolium* (low-bush blueberry)  
*Viburnum acerifolium* (maple leaf viburnum)  
*Viburnum dentatum* (arrowwood viburnum)

**Vines:**

*Amphicarpa bracteata* (hog peanut)  
*Celastrus orbiculatus* (Asiatic bittersweet)  
*Mitchella repens* (partridge berry)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Achillea millefolium* (yarrow)  
*Actaea pachypoda* (white baneberry)  
*Allium canadense* (wild onion)  
*Arisaema triphyllum* (Jack-in-the-pulpit)  
*Artemisia vulgaris* (common mugwort)  
*Asarum canadense* (wild ginger)  
*Aster divaricatus* (white wood aster)  
*Caulophyllum thalictroides* (blue cohosh)  
*Circaea lutetiana* (quadrisulcata) (enchanter's nightshade)  
*Collinsonia Canadensis* (horse balm)  
*Cryptotaenia canadensis* (honewort)  
*Daucus carota* (Queen Anne's lace)  
*Desmodium glutinosum* (pointed-leaved tick-trefoil)  
*Eupatorium purpureum* (Joe Pye weed)  
*Eupatorium rugosum* (*Ageratina altissima*) (white snakeroot)  
*Fallopia japonica* (Japanese knotweed)  
*Geum canadense* (white avens)  
*Hackelia virginiana* (stickseed)  
*Helianthus divaricatus* (woodland sunflower)  
*Impatiens capensis* (orange jewelweed)  
*Lactuca virosa* (wild lettuce)  
*Laportea canadensis* (wood nettle)  
*Maianthemum canadense* (Canada mayflower)  
*Melampyrum lineare* (cow wheat)  
*Myosotis scorpioides* (true forget-me-not)  
*Nabalus serpentarius* (lions foot)  
*Osmorhiza claytoni* (sweet cicely)  
*Phryma leptostachya* (lopseed)  
*Pilea pumila* (clearweed)  
*Polygonatum biflorum* (true Solomon's seal)  
*Polygonum pensylvanicum* (smartweed, pink smartweed)  
*Polygonum virginianum* (Virginia knotweed)  
*Pyrola elliptica* (shinleaf)  
*Sanguinaria canadensis* (bloodroot)  
*Sanicula marilandica* (Maryland black snakeroot)

## OLD MINE PARK

*Smilacina racemosa* (false Solomon's seal)  
*Symplocarpus foetidus* (skunk cabbage)  
*Thalictrum dioicum* (early meadow rue)  
*Tradescantia virginiana* (Virginia spiderwort)  
*Trifolium repens* (white clover)

### **Sedges & Rushes:**

*Carex appalachica* (Appalachian sedge)  
*Carex blanda* (woodland sedge)  
*Carex pensylvanica* (Pennsylvania sedge)  
*Carex plantaginea* (seersucker sedge)  
*Carex platyphylla* (broad-leaved sedge)  
*Carex radiata* (star sedge)

### **Grasses:**

*Panicum clandestinum* (deer-tongue grass)

### **Ferns and allies:**

*Athyrium filix-femina* (lady fern)  
*Dryopteris marginalis* (marginal wood fern)  
*Lycopodium obscurum* (ground pine)  
*Onoclea sensibilis* (sensitive fern)  
*Osmunda cinnamomea* (cinnamon fern)  
*Polypodium vulgare/ virginianum* (rock polypody, rock cap fern)  
*Polystichum acrostichoides* (Christmas fern)  
*Pteridium aquilinum* (bracken fern)  
*Thelypteris noveboracensis* (New York fern)

## GREAT OAK PARK

July 15, 2020 Field Surveys

CONSERVATION VALUES include: Trees including 50" diameter white oak, evergreen trees (red cedar grove), hiking trails with footbridges and boardwalks, extensive wetlands, vernal pools, seeps, riparian zones, floodplain forests, Canoe Brook, open wet meadows, several small meadows, greenways connecting town-owned Canoe Brook North property and Canoe Brook Lake, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for nature study and scenic vistas and viewing areas.

The 70-acre Great Oak Park lies in the west-central section of Trumbull (see Location Map page 119). The Park was purchased by the Town in the late 1960's. Access and parking are found at the parking lot on Dayton Road. Parking is also available for one or two cars at two informal pull-offs by trail entrances along Dayton Road. Parking for one or two cars is also available at the

trail entrance at the end of Sally Ann Drive (see Environmental Features Map page 125). The Park is surrounded by densely developed single-family homes (see Satellite Photograph Map page 120). Canoe Brook Lake is 0.25 miles to the south. The 6-acre town-owned parcel just north of the Park is mostly wetland; another 1.1 acre town-owned parcel lying just to the south of the Park is also mostly wetland. The 72 acre Canoe Brook Lake is south of the Park and connected hydrologically by Canoe Brook (see Surrounding Open Space Map page 126).

Canoe Brook, which on some maps is also referred to as Horse Tavern Brook, begins in a wetland 0.5 miles north of the Park and continues to flow north to south for another 0.5 miles through the Park and then into Canoe Brook Lake located 0.25 miles to the south (see Streams & Wetland Soils Map page 123). At least five other streams flow into the Park before



Park entrance on Dayton Road

converging into Canoe Brook. The streams are part of a large wetland system that occupies approximately 33 of the Park's 70 acres, or approximately half of the Park. The large wetlands and the several streams have kept the Park from being developed while the surrounding area has been developed. Past attempts to develop the land are evidenced by the channeled wetlands in the northwest section of the Park and by the abandoned road and stream crossings in the south section of the Park. The Park also has two ponds and at least one vernal pool.

Elevations fall from a peak elevation of 400 feet above sea level at the Park's northwest boundary to a low point of 370 feet at the Park's southwest boundary where Canoe Brook exits the Park. Two knolls of 400 and 410 feet in elevation rise in the center of the Park. Two excavated pits, perhaps gravel pits, form deep depressions near the center of the Park (see Elevation and Topographic Maps pages 121 & 122).

The Park has approximately 1.5 miles of well-defined and clearly marked hiking trails that form a loop through the Park (see Environmental Features Map page 125). Three footbridges provide stream crossings and a 250 foot-long boardwalk allows hikers to walk through the center of an open wet meadow and see the 'Great Oak' which is 50 inches in diameter, making it several hundred years old. Because the oak grows on the very edge of a large wetland and is separated from dry land by a farmer's stonewall it has remained untouched for hundreds of years while the surrounding land was first farmed and then developed. Stonewalls like these were built to keep livestock out of wetlands and had the unintended consequence of sheltering this magnificent oak tree.



One of the Park's three footbridges

## GREAT OAK PARK



50 inch diameter Great Oak, the Park's namesake

### ENVIRONMENTAL COMMUNITIES:

Approximately half of the Park's 70 acres are wetlands. Within the wetlands are streams and where the streams spread out, small ponds and vernal pools are created. The rest of the Park consists of oak-hickory forests and a small knoll with red cedar trees, most of which are dead due to shading by taller oaks. Three small grassy openings are found in the Park's southern section. These 70 acres of woods and wooded wetlands, surrounded by dense residential development, provide some of the only refuge in the area for insects, amphibians and reptiles, small mammals, nesting and migrating birds and other wildlife in addition to hiking trails for neighbors.

Great Oak Park has the following Ecological Communities (see Ecological Communities Map page 124 and Plant Inventory page 130.):

OAK-HICKORY FOREST: 35 acres

RED MAPLE SWAMP: WETLANDS, STREAMS, PONDS, VERNAL POOLS: 32 acres

RED CEDAR KNOLL: 2 acres

MEADOWS: 1 acre

LAWN: 0.40 acres

### OAK-HICKORY FOREST: 35 acres:

The higher, drier areas in the Park are dominated by oak trees, including the Park's namesake, the Great Oak which measure 50 inches in diameter. White and red oaks are dominant along with red maples, black birch and beech trees. Understory trees include red cedars that have been shaded out by taller oaks, hornbeam and a few flowering dogwoods. Shrubs include low bush and high bush blueberry and witch hazel. Ground cover plants are hay scented fern and New York fern, greenbriar vine, Pennsylvania sedge, Canada mayflower, partridgeberry and shinleaf.

### RED MAPLE SWAMP: STREAMS, WETLANDS, PONDS & VERNAL POOLS: 32 acres

#### CANOE BROOK/HORSE TAVERN BROOK:

As mentioned above, Canoe Brook, which on some maps is also referred to as Horse Tavern Brook, flows north to south for 0.5 miles through the Park and then into Canoe Brook Lake located 0.25 miles to the south (see Streams & Wetland Soils Map page 13). At least five other streams flow into the Park before converging into Canoe Brook.

Wetlands occupy approximately 32 of the Park's 70 acres, approximately half of the Park, and are mostly wooded with red maple, tulip, yellow birch, red oak, tupelo and a few sycamore trees. This assemblage is referred to as a red maple swamp. The main shrubs are spice bush and sweet pepperbush (clethra) while skunk cabbage, New York and sensitive fern, jewelweed and jumpseed dominate the ground layer. In the wetlands at the southern portion of the Park, where fill had been dumped in an attempt to build roads for development, invasive phragmites is dominant.

Other unique wetlands found in the Park include the open wet meadow by the long boardwalk in the north section of the Park and the vernal pool in the western section of the Park. The open wet meadow has sparse red maple and yellow birch in the canopy which allow sunlight to penetrate and shrubs and wildflowers to grow. Many winterberry shrubs, along with spice bush and sweet pepperbush, grow in hummocks while attractive Joe Pye weed, swamp milkweed and tall meadow rue--all in bloom in mid-July--grow in the very wet ground layer. Other plants include bluejoint grass, wood nettle, cinnamon fern, jewelweed and dodder. The attractive plant life, along with accessibility from the boardwalk, makes this a worthwhile destination for hikers.

The Park also has two ponds and at least one vernal pool. The ponds are not true ponds but rather are flat, slow-moving sections of the river. The vernal pool also is not technically a vernal pool (defined as a seasonal water body without above groundwater inflow and outflow) but rather is also a flat slow moving section of the river that dries up in summer months. Nevertheless it functions as a vernal pool for pool-breeding amphibians that would otherwise be limited by fish populations. The vernal pool, dry in mid-July, is ringed with red maple trees with sweet pepperbush (clethra), winterberry and witch hazel shrubs growing in hummocks. As mentioned above, the Park's wetlands also show evidence

of past attempts of draining and channeling in the wetlands in the northwest section as well as an abandoned road and stream crossings in the south section of the Park.



Pond in southeast section of Park



Pond in northwest section of Park

The Park's wetlands provide important ecological functions including removing pollutants and sediments that might otherwise worsen water pollution in Canoe Brook Lake located 0.25 miles to the south. The Canoe Brook Lake Association's 190 member households use Canoe Brook Lake for recreation but "runoff from heavy rains increases bacteria levels to the point where weekly water testing . . . shows lake water degradation" and members are warned not to swim at those times.<sup>69</sup>

The Park's wetlands also control flooding--especially important in Trumbull which has seen increased flooding in recent years as climate change increases the frequency and severity of rain events and development increases the amount of impervious surfaces. Canoe Brook is in a FEMA listed flood plain and one home just south of the Park was bought out and demolished with FEMA funding because of continually flooding (see Flood Risk Map page 19). The Park's wetlands, streams, ponds and vernal pools also provide habitats for insects including pollinators, reptiles and amphibians, birds and other wildlife as well as scenic beauty and recreation to visitors.

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<sup>69</sup> Great Oak Park: Proposal for Trails/Open Space. Friends of Great Oak Park, Canoe Brook Lake Association. February, 2007.

### RED CEDAR KNOLL: 2 acres

This hilltop near the center of the Park has white and red oak trees growing above dead red cedar trees. Red cedars need full sunlight and their presence indicates that this hilltop was open field until several decades ago. Red cedars first colonized the abandoned field and then were shaded out by shade-tolerant oak and hickory trees. Most of the red cedars are now dead. A Scout project, described in a kiosk at the base of the hill, explains attempts to keep some of the coniferous red cedars alive for biodiversity, a worthy goal, but it appears that cutting down enough mature oak trees to provide sunlight for the few remaining cedars is not practical or desirable.

### MEADOWS: 1 acre

Three small meadows, each smaller than a tenth of an acre, are found off the abandoned road at the end of Helena Road. These appear to be the result of clearing for a road to a housing development that was never built, most likely prevented by the streams and wetlands that make up most of the southern section of the Park. Hay scented and New York fern along with Canada goldenrod and dogbane are the common plants growing in the meadows. Meadows are a declining habitat in the region and are important habitats for insects, including pollinators, birds, amphibians and reptiles and small mammals so these meadows should be brush hogged every few years to keep them in their present state.



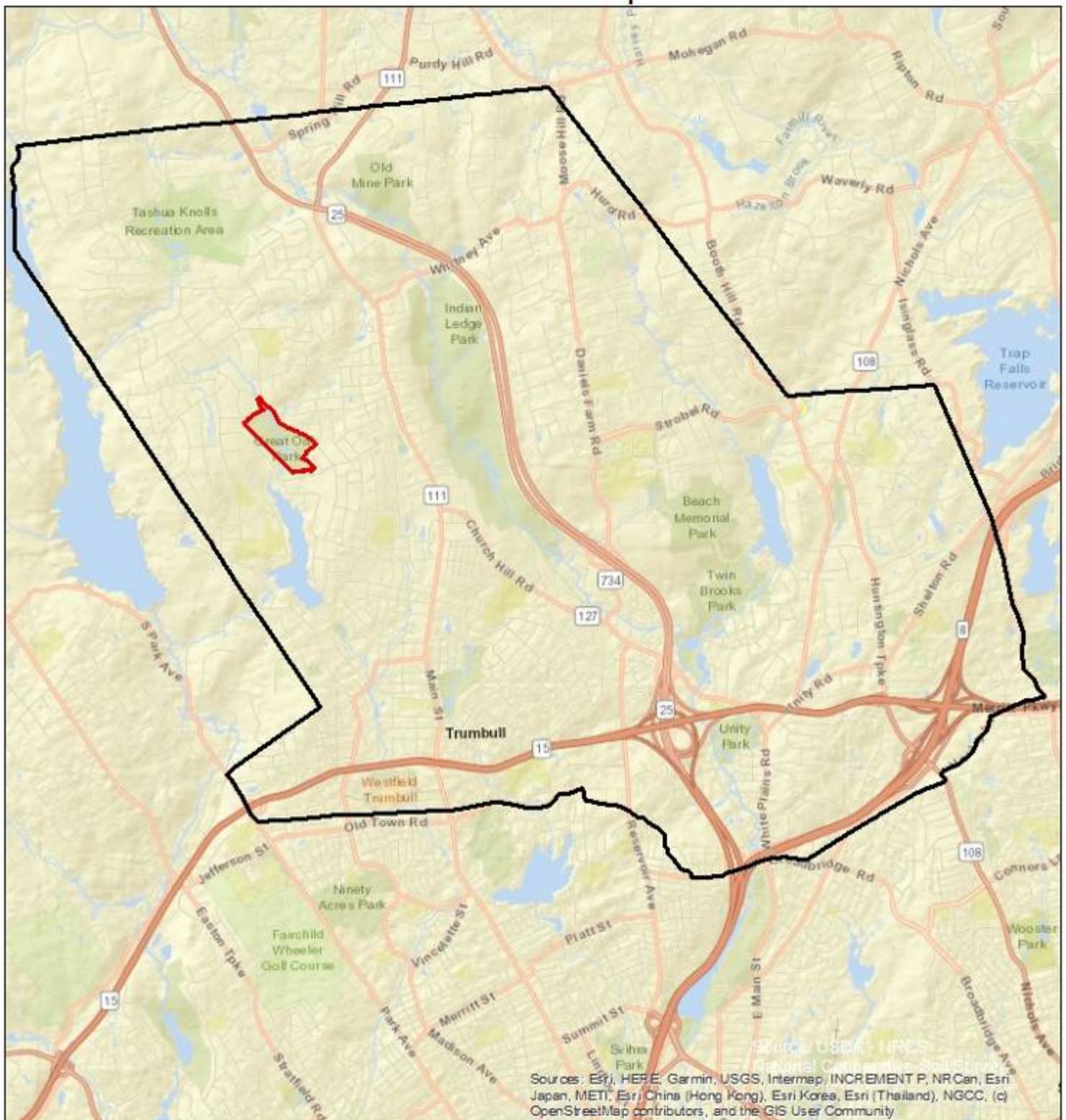
Meadow at entrance off Helena Road

### LAWN: 0.40 acres

The extreme northwest corner of the Park is maintained as lawn, presumably by the neighboring homeowner along Limerick Road (see Incursion Map page 127). While the intent may be commendable, low cut grass such as this has little ecological value and pesticides, herbicides or fertilizers that may be applied can damage the Park's watercourses. Meadows, as mentioned above, are an important habitat in decline in the region and, unlike short grass, can slow down and absorb stormwater and increase the diversity of native wildflowers and grasses which in turn triggers an increase in diversity of wildlife. Mowing should be ceased and if meadow habitat is desired, then the area should be brush hogged once every two or three years. Brush hogging during the growing season will harm wildlife so brush hogging should only be done in winter.

This mature, intact forest and wetland system is an oasis surrounded by development. Trails are well-maintained and dry and ample parking exists for visitors.

# Great Oak Location Map



1 inch = 4,537 feet  
0 0.5 1 2 Miles



July 13, 2020

# Great Oak Park Satellite Photograph Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



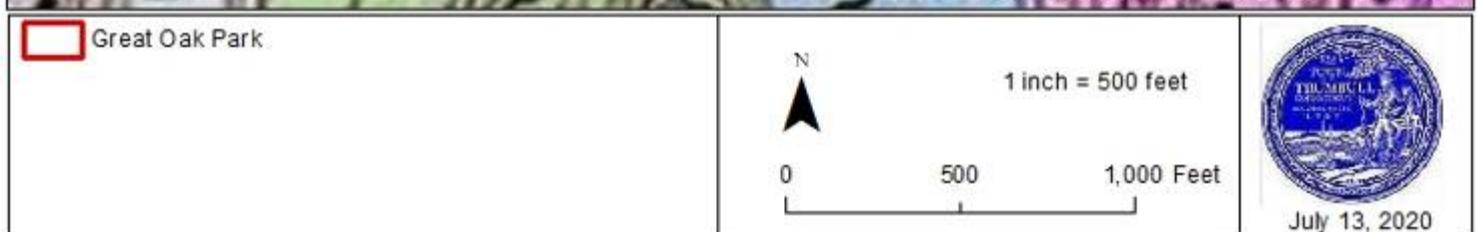
# Great Oak Park Elevations Map



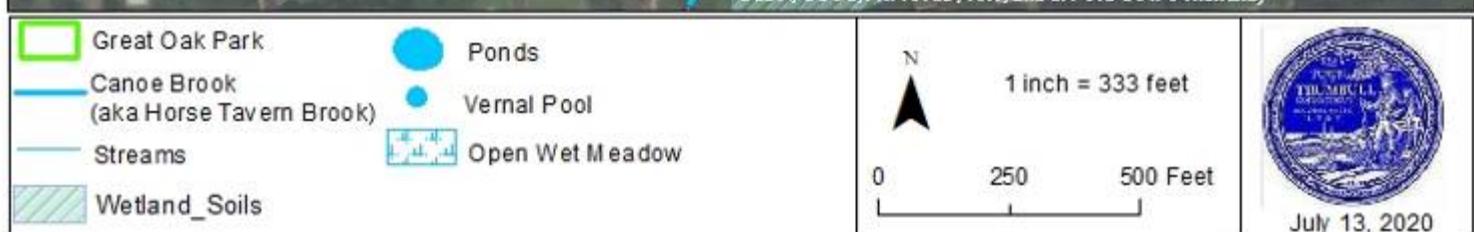
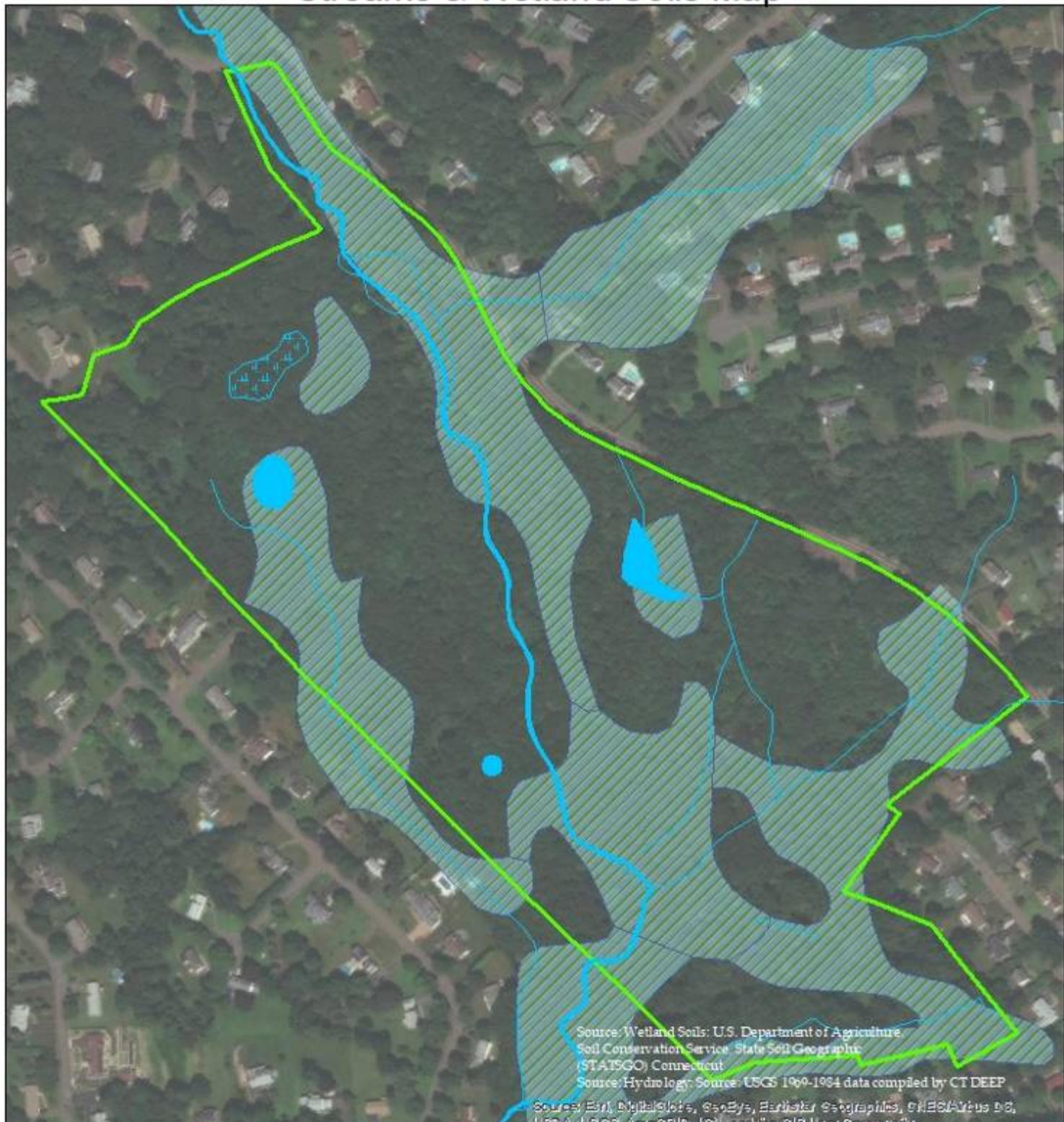
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, Aerial3D, IGN, and the GIS User Community



# Great Oak Park Topographic Map



# Great Oak Park Streams & Wetland Soils Map



# Great Oak Park Ecological Communities Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Great Oak Park	Red Cedar Knoll	Open Wet Meadow	N 1 inch = 333 feet	 July 13, 2020
Canoe Brook/ Horse Tavern Brook	Meadows	Great White Oak	0 150 300 Feet	
Red Maple Swamp	Incursion/Lawn			
Oak-Hickory Forest	Ponds/Vernal Pools			

# Great Oak Park

## Environmental Features Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<p>Great Oak Park</p> <p>Horse Tavern Brook</p> <p>Hiking Trails</p> <p>Hiking Entrances</p> <p>Parking</p>	<p>Meadows</p> <p>Red Cedar Knoll</p> <p>Ponds</p> <p>Vernal Pool</p> <p>Open Wet Meadow</p> <p>Great White Oak</p>	<p>Footbridges</p> <p>Boardwalk</p> <p>Abandoned Road/Trail</p> <p>Excavated Pit</p> <p>Stone Walls</p>	<p>N</p> <p>1 inch = 333 feet</p> <p>0 250 500 Feet</p>	 <p>July 13, 2020</p>
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# Great Oak Park Surrounding Open Space Map



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IHS, and the GIS User Community



0

0.125

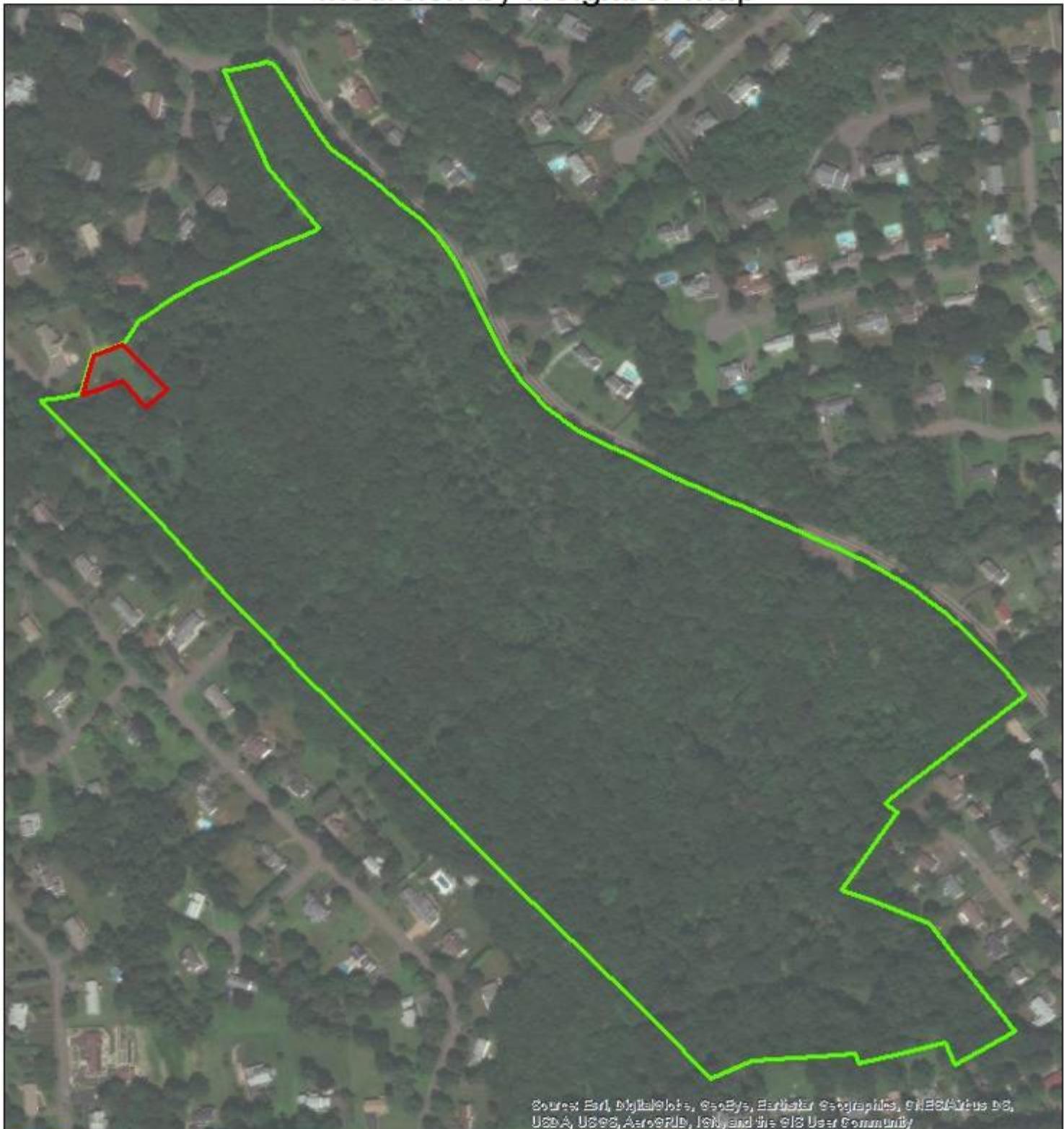
0.25

0.5 Miles

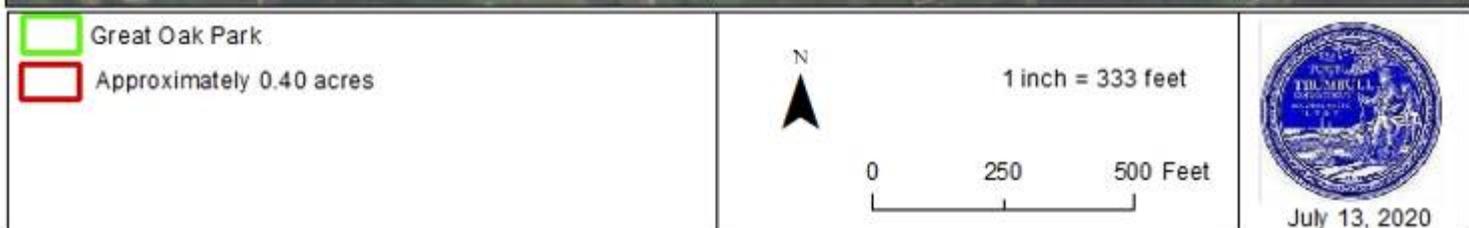
1 inch = 1,122 feet



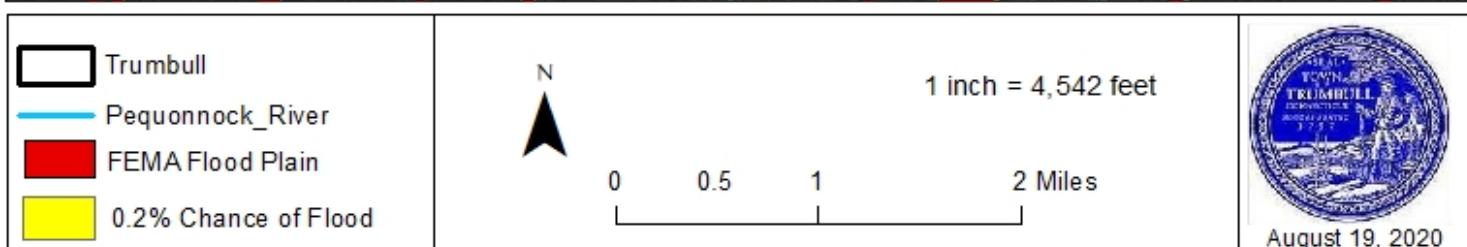
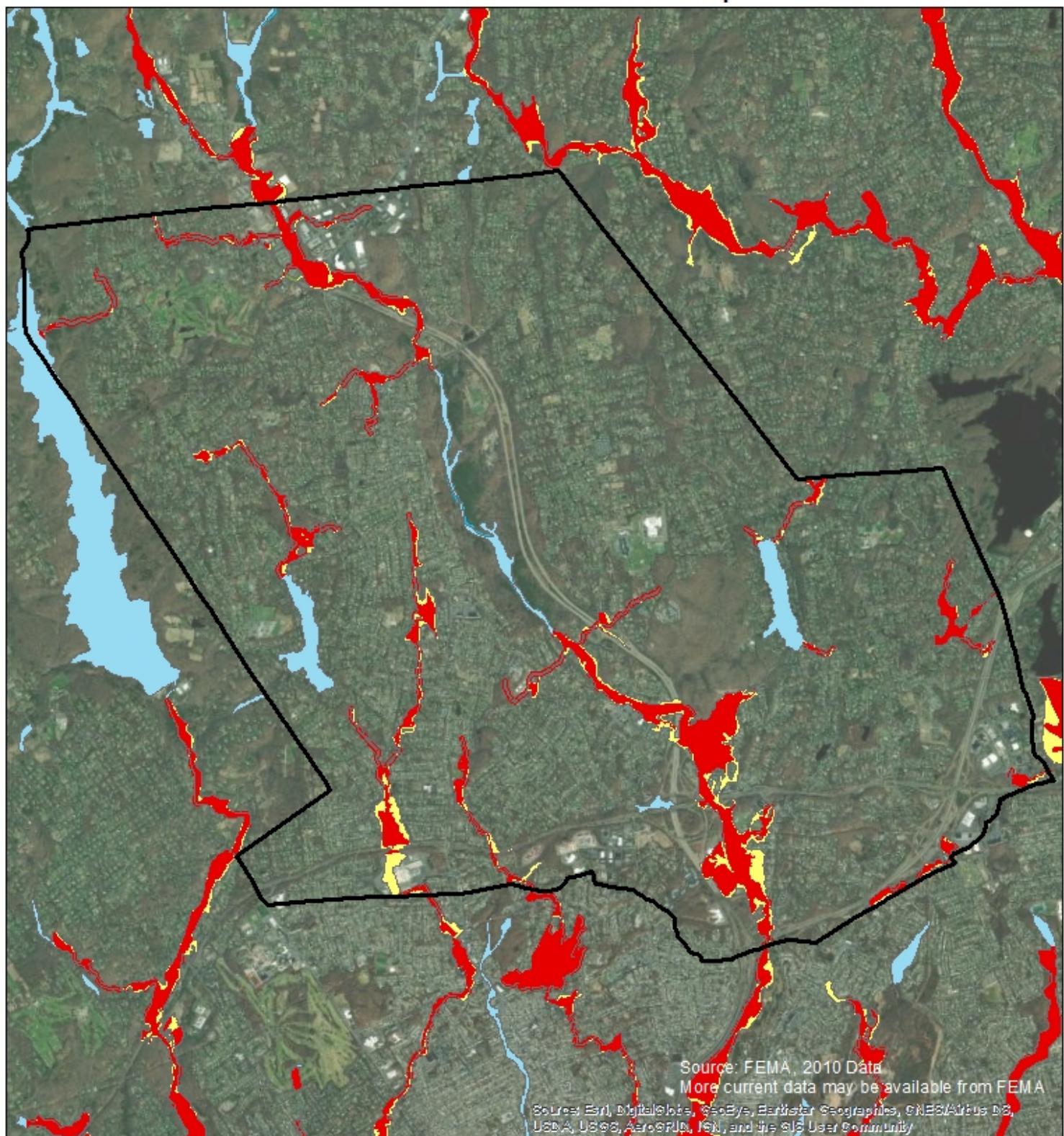
# Great Oak Park Incursion by Neighbor Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, Ikonos, and the GIS User Community



# Trumbull Flood Risk Map



## THREATS:

- Flooding- parcel is in FEMA flood plain, home south of the Park was bought out with FEMA funds and demolished because of flooding
- Trespass/clearing at northwest section of Park
- Invasive plants-phragmites in south section
- Litter in center of Park, graffiti

## RECOMMENDATIONS:

- Trespass at the northwest section of the Park should be addressed and lawn should be allowed to grow naturally to meadow
- Meadows can be brush hogged once every few years to maintain them as meadow
- The entrance sign can be trimmed of grass and weeds to increase visibility
- Additional trail blazes can be added to aid hikers
- Educational signs can be added to highlight the value of unique habitats such as the vernal pools and open wet meadow
- Graffiti on bridges can be sanded off
- Trash in the center of the Park in make-shift campsites and in excavation pits should be cleared
- The Scout kiosk is obsolete and can be updated or removed
- Invasive phragmites should be monitored and if spreading, controlled
- Engage the Friends of the Great Oak Park group

# GREAT OAK PARK

## PLANT INVENTORY July 13, 2020 Field Surveys

### Trees:

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carpinus caroliniana* (ironwood)  
*Carya ovata* (shagbark hickory)  
*Cornus florida* (flowering dogwood)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Juniperus virginiana* (red cedar)  
*Liriodendron tulipifera* (tulip tree)  
*Nyssa sylvatica* (tupelo)  
*Platanus occidentalis* (American sycamore)  
*Populus grandidentata* (big-toothed aspen)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Salix spp.* (willow)  
*Sassafras albidum* (sassafras)  
*Tsuga canadensis* (eastern hemlock)  
*Ulmus americana* (American elm)

### Shrubs:

*Clethra alnifolia* (pepperbush)  
*Hamamelis virginiana* (witch hazel)  
*Ilex verticillata* (winterberry)  
*Lindera benzoin* (spicebush)  
*Vaccinium angustifolium* (low-bush blueberry)  
*Vaccinium corymbosum* (high-bush blueberry)

### Vines:

*Amphicarpa bracteata* (hog peanut)  
*Celastrus orbiculatus* (Asiatic bittersweet)  
*Cuscuta gronovii* (dodder)  
*Mitchella repens* (partridge berry)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis sp.* (grape)

### Herbs:

*Apocynum androsaemifolium* (dogbane, Indian hemp)  
*Arisaema triphyllum* (Jack-in-the-pulpit)  
*Artemisia vulgaris* (common mugwort)  
*Asclepias incarnata* (swamp milkweed)

## GREAT OAK PARK

Aster cordifolius (heart leaved aster)  
Aster divaricatus (white wood aster)  
Circaeа lutetiana (quadrisulcata) (enchanter's nightshade)  
Daucus carota (Queen Anne's lace)  
Epipactis helleborine (broad-leaved helleborine)  
Eupatorium purpureum (Joe Pye weed)  
Geum canadense (white avens)  
Impatiens capensis (orange jewelweed)  
Laportea canadensis (wood nettle)  
Maianthemum canadense (Canada mayflower)  
Pilea pumila (clearweed)  
Polygonum cuspidatum (Japanese knotweed)  
Polygonum virginianum (Virginia knotweed)  
Pyrola elliptica (shinleaf)  
Solidago Canadensis (Canada goldenrod)  
Symplocarpus foetidus (skunk cabbage)  
Thalictrum pubescens (tall meadow rue)  
Trifolium repens (white clover)

### **Sedges & Rushes:**

Carex blanda (woodland sedge)  
Carex lacrustus (lake sedge)  
Carex pensylvanica (Pennsylvania sedge)  
Carex platyphylla (broad-leaved sedge)

### **Ferns and allies:**

Athyrium filix-femina (lady fern)  
Dennstaedtia punctilobula (hay-scented fern)  
Dryopteris marginalis (marginal wood fern)  
Onoclea sensibilis (sensitive fern)  
Osmunda cinnamomea (cinnamon fern)  
Polystichum acrostichoides (Christmas fern)  
Thelypteris noveboracensis (New York fern)

July 23, 2020 Field Surveys

**CONSERVATION VALUES** include: Mature trees, hiking trails, wetlands and vernal pools, riparian zones, floodplain forests, streams and seeps, ponds, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for nature study and scenic vistas.

The 47-acre Island Brook Park lies in the south-central section of Trumbull (see Location Map page 137). Access and parking are found at the parking lot on at Wilmot Avenue and Garden Street just east of Main Street. Informal trail entrances are found along the Park's west side at the end of Chestnut Street and at the Park's north side along Canterbury

Lane. Several trails lead to the Park from private homes along the Park's east side. Approximately 12 acres of the Park are occupied by four ball fields, tennis courts and the parking lot. The remaining 35 acres are wooded (see Satellite Photograph Map page 138). The Park is surrounded by densely developed single-family homes (see Satellite Photograph Map page 138). Middlebrook School lies just to the north (see Surrounding Open Space Map page 144).

Island Brook flows from Ersham Pond located 0.25 miles to the northwest and continues to flow north to south for approximately 0.5 miles through the Park (see Streams & Wetland Soils Map page 141). Island Brook continues to flow south another 1.2 miles before entering Lake Forest in Bridgeport. The Brook is interrupted by two man-made ponds. The pond at the north end of the Park is 0.6 acres in size; the pond at the south end of the Park is 1.0 acre in size. About half the Park consists of wetland soils and the Park is within the 100-year flood plain, one reason the Park was remained undeveloped except for recreational facilities (see Flood Risk Map page 142).



Park entrance at Wilmot Avenue & Garden Street

## ISLAND BROOK PARK



Pond at north end of Park



Pond at south end of Park

## ISLAND BROOK PARK

The Park is relatively flat with elevations falling from a peak elevation of 350 feet above sea level at the Park's eastern section to a low point of 320 feet at the Park's western section where the brook and wetlands are located (see Elevation and Topographic Maps pages 139 & 140).

The Park has approximately 0.5 miles of hiking trails that run through the center of the Park and around the shoreline of the two ponds (see Trail Map page 145). Two foot bridges allow visitors to cross Island Brook and another stream by the southern pond--both foot bridges need repair. A series of logs form a bridge over another stream in the northern part of the Park, apparently for mountain bikes to be able to cross this wet area. A board walk could replace these logs.



Hiking trail in center of Park



Foot bridges in need of repair



Board walk of sticks

#### ENVIRONMENTAL COMMUNITIES:

Approximately 25 acres of the Park's woods can be classified as a Red Maple Swamp community consisting of wetland soils and red maple trees while the remaining 10 acres of the Park's woods in the higher, drier eastern half is an Oak-Hickory forest (see Ecological Communities Map page 143). These 35 acres of woods and wooded wetlands, surrounded by dense residential development, provide some of the only refuge in the area for insects, amphibians and reptiles, small mammals, nesting and migrating birds and other wildlife in addition to hiking trails for neighbors.

Island Brook Park has the following Ecological Communities (see Ecological Communities Map page 143 and Plant Inventory page 147.):

RED MAPLE SWAMP: 25 acres

OAK-HICKORY FOREST: 10 acres

PONDS: 1.5 acres

### RED MAPLE SWAMP: 25 acres

Wetlands occupy approximately 25 of the Park's 35 wooded acres or approximately 70% of the Park's woods. Dominant trees include red maple, tulip, tupelo, shagbark hickory and a few hemlock, cottonwood and sycamore trees. This assemblage is referred to as a red maple swamp community. Understory trees in these wetlands include pussy willow, yellow birch, ironwood and elm trees. The main shrubs close to the brook are silky dogwood and elderberry along with invasive Japanese knotweed and multi-flora rose. At slightly higher areas in the wetlands spicebush, sweet pepperbush (clethra), arrowwood viburnum and witch hazel are common. Ground layer wetland plants include Joe Pye weed, jewelweed, purple stem angelica, pickerelweed, halberd-leaved smartweed, royal, cinnamon, and New York fern, Jack in the pulpit and in the wettest areas, cattails and skunk cabbage.

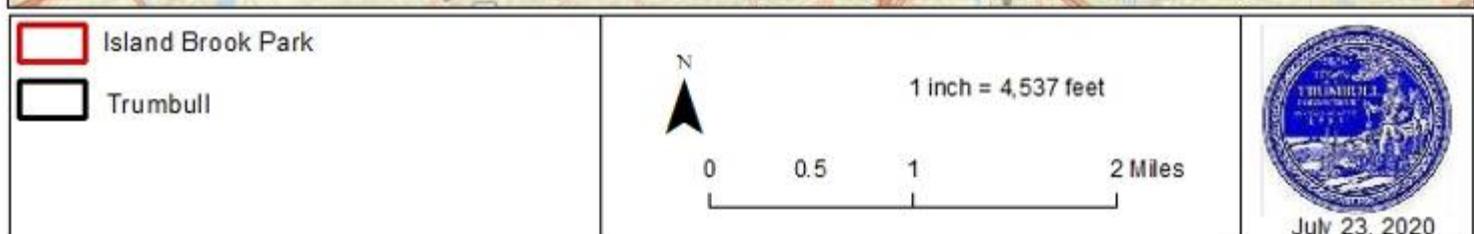
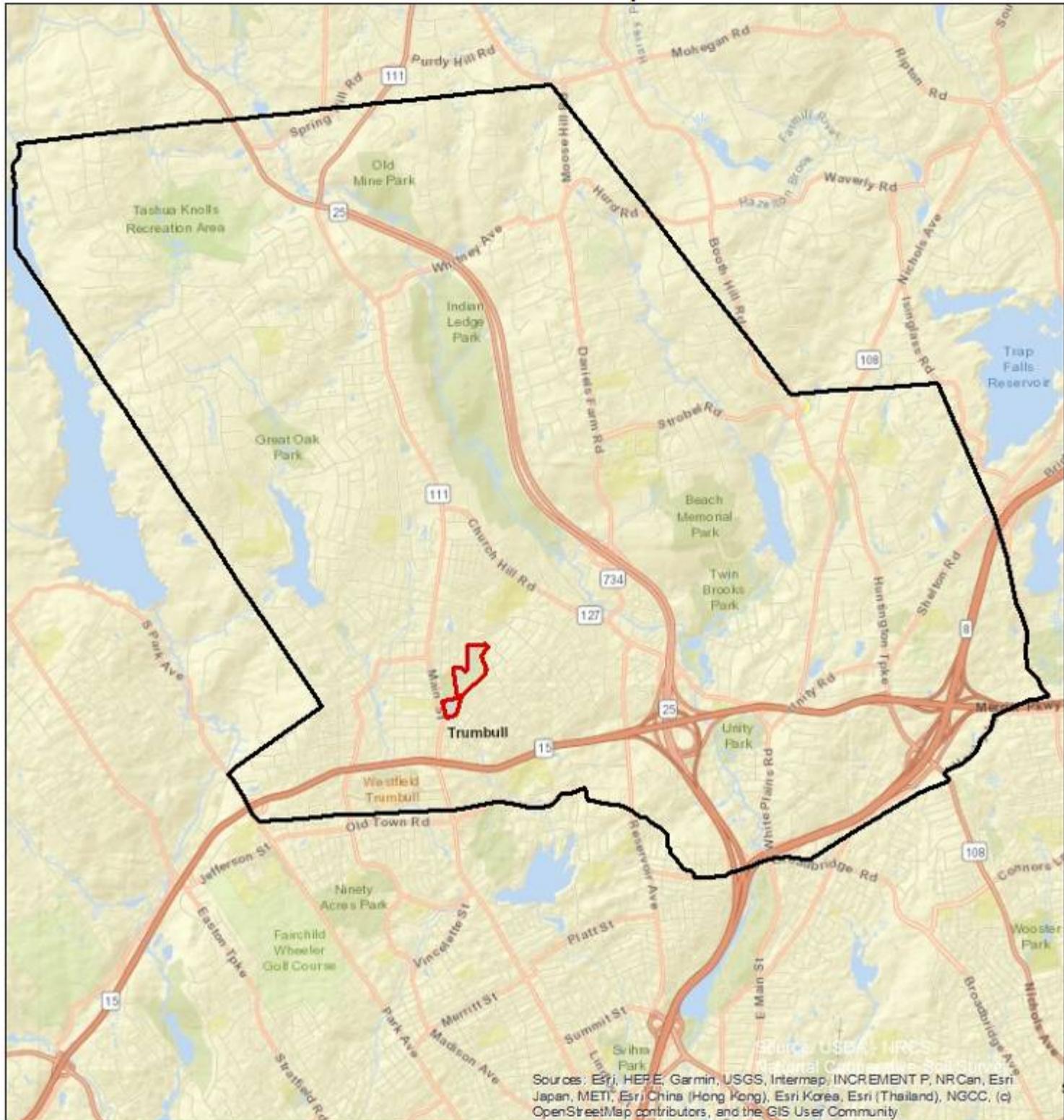
The Park's wetlands provide important ecological functions including removing pollutants and sediments and controlling flooding--especially important as the Park's western section lies within the FEMA floodplain (see Floodplain Map page 142). Flooding risk may increase as climate change increases the frequency and severity of rain events and development increases the amount of impervious surfaces. The Park's wetlands, streams and ponds also provide habitats for insects including pollinators, reptiles and amphibians, birds and other wildlife as well as scenic beauty and recreation to visitors.

### OAK-HICKORY FOREST: 10 acres:

The higher, drier areas in the eastern part of the Park are dominated by oak trees, including red, white and black oaks. Other trees include beech, sugar maple, black birch, non-native Norway maples and black cherry along with a few gray birch in the sunlit woodland edges. Shrubs include low bush and high bush blueberry, witch hazel and maple-leaf viburnum. Along the eastern boundary, large patches of invasive burning bush have come in from neighboring yards, shading out all other vegetation.

Ground cover plants include invasive mugwort close to the ball fields, dogbane, greenbriar, morning glory and Virginia creeper vines, pokeweed, sarsaparilla, New York fern, Canada mayflower, partridgeberry and shinleaf.

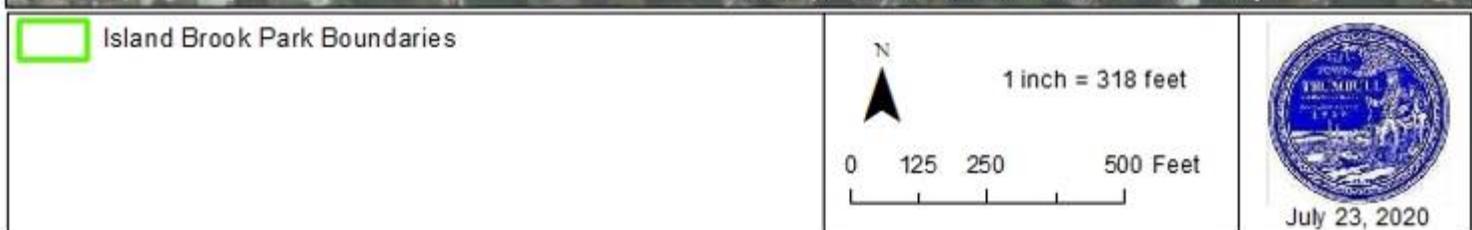
# Island Brook Park Location Map



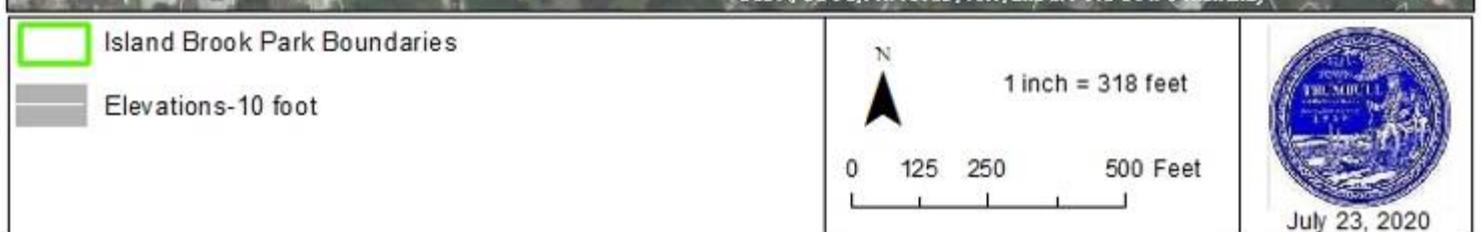
# Island Brook Park Satellite Photograph Map



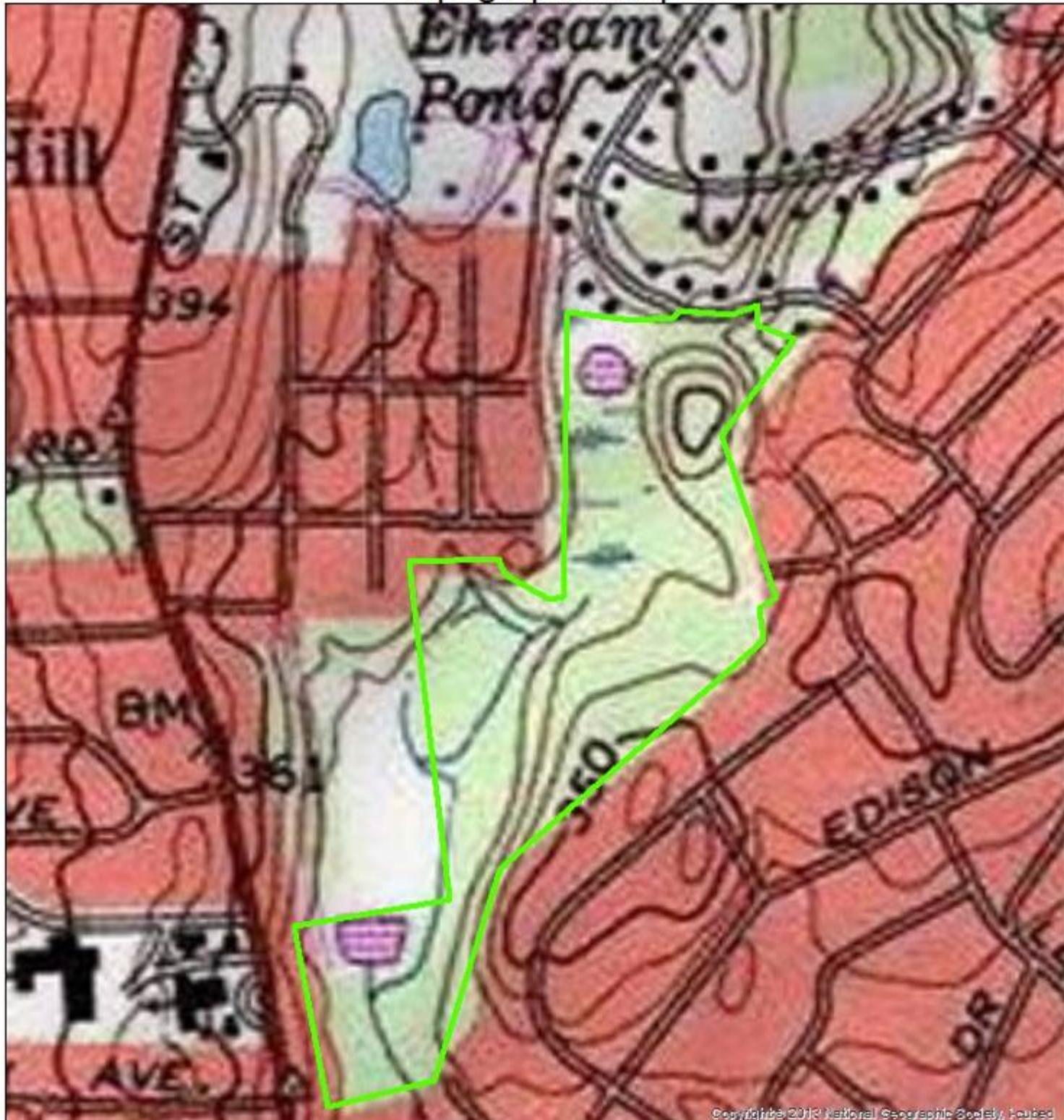
Satellite Imagery: DigitalGlobe, Esri, Esri, HERE, GeoEye, Intermap, PetroGlobe, USDA, USGS, AeroGRID, IGN, and the GIS User Community



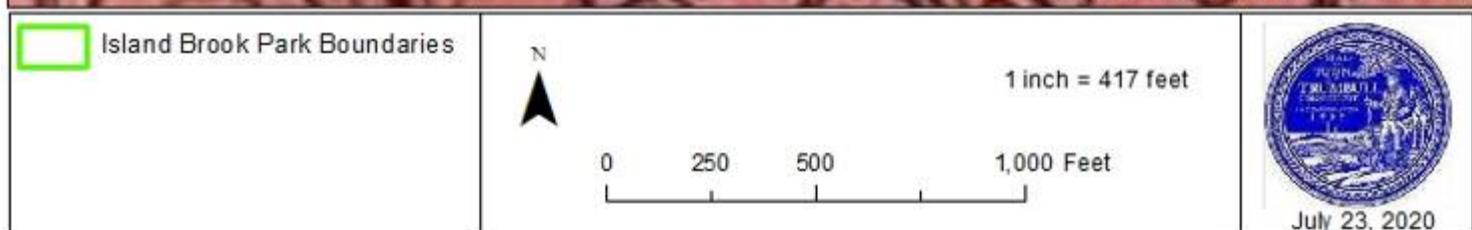
# Island Brook Park Elevations Map



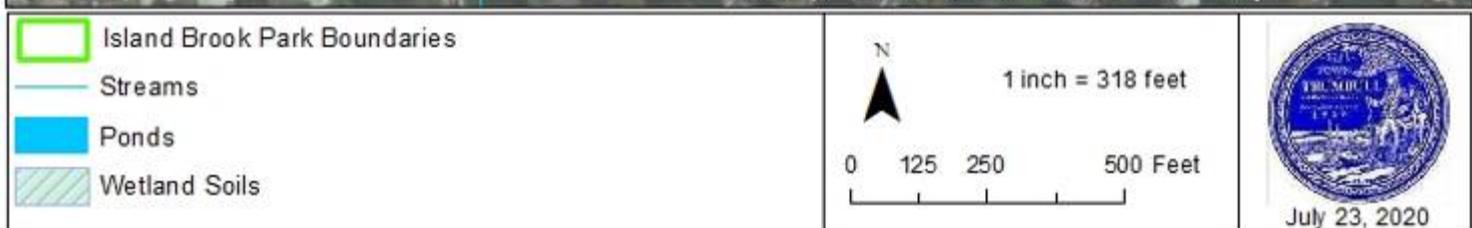
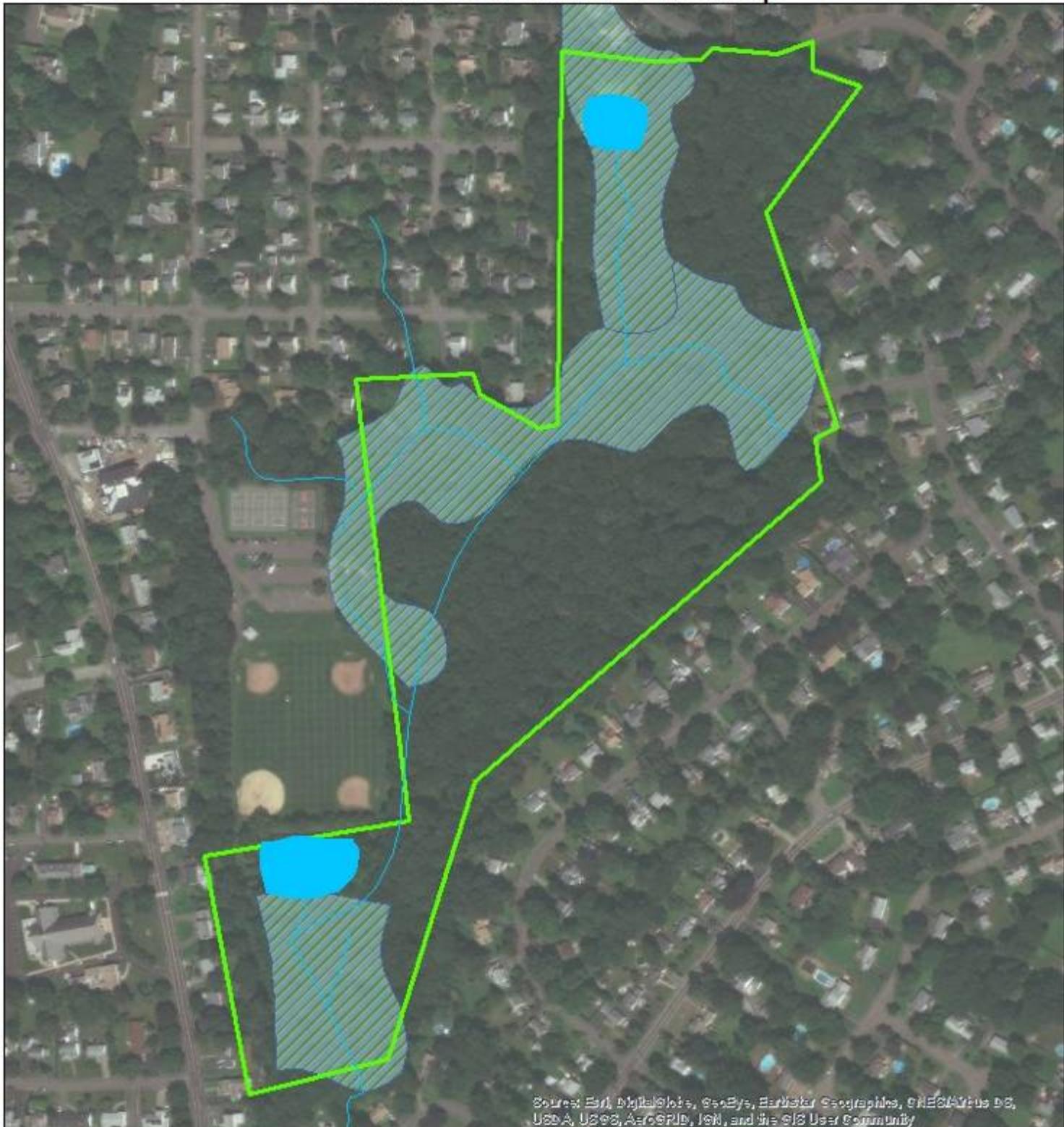
# Island Brook Park Topographic Map



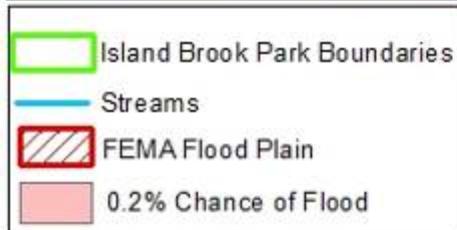
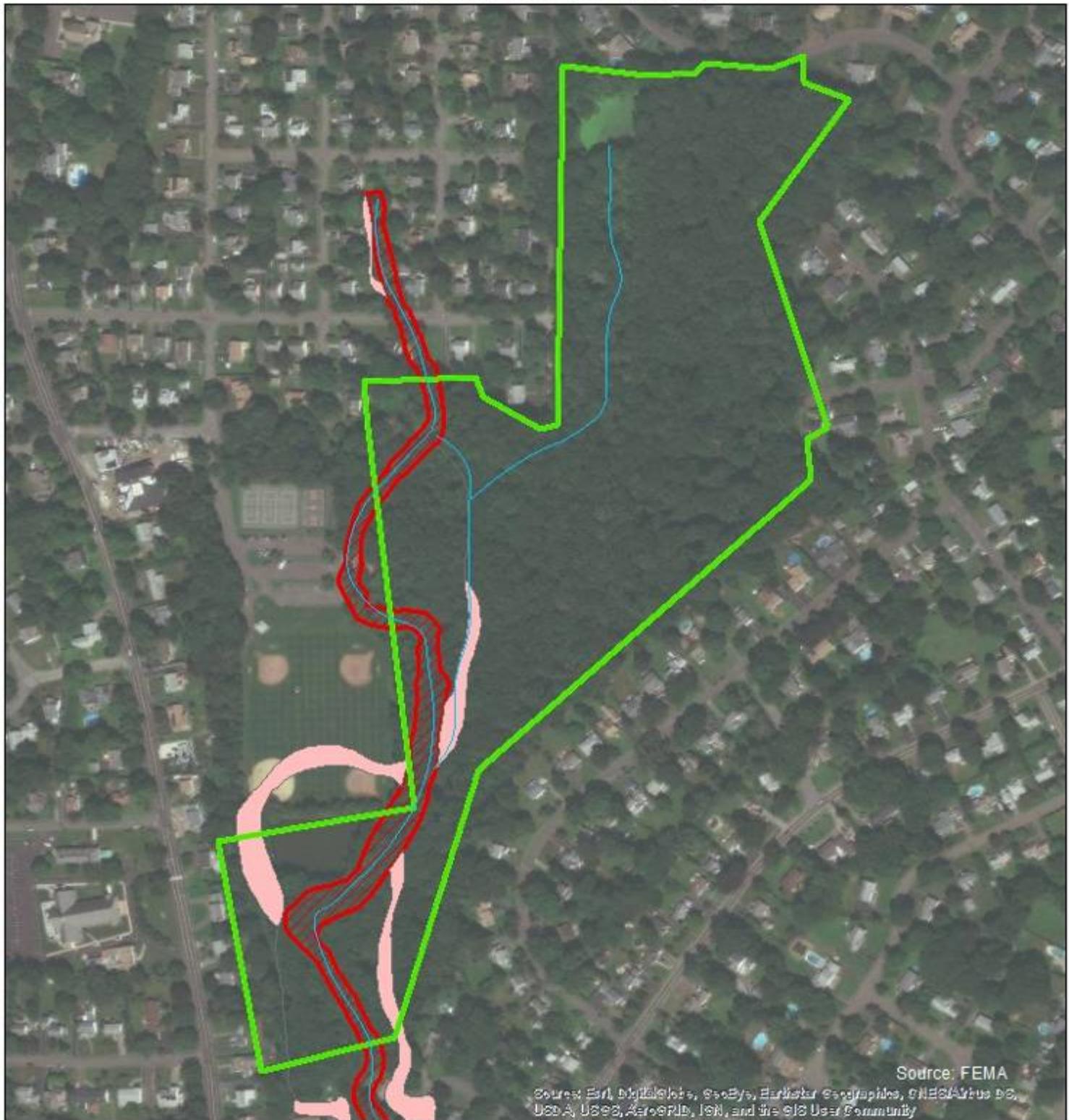
Copyright 2013 National Geographic Society, Inc.



# Island Brook Park Streams & Wetland Soils Map



# Island Brook Park FEMA Flood Risk Map



1 inch = 330 feet  
0 0.025 0.05 0.1 Miles



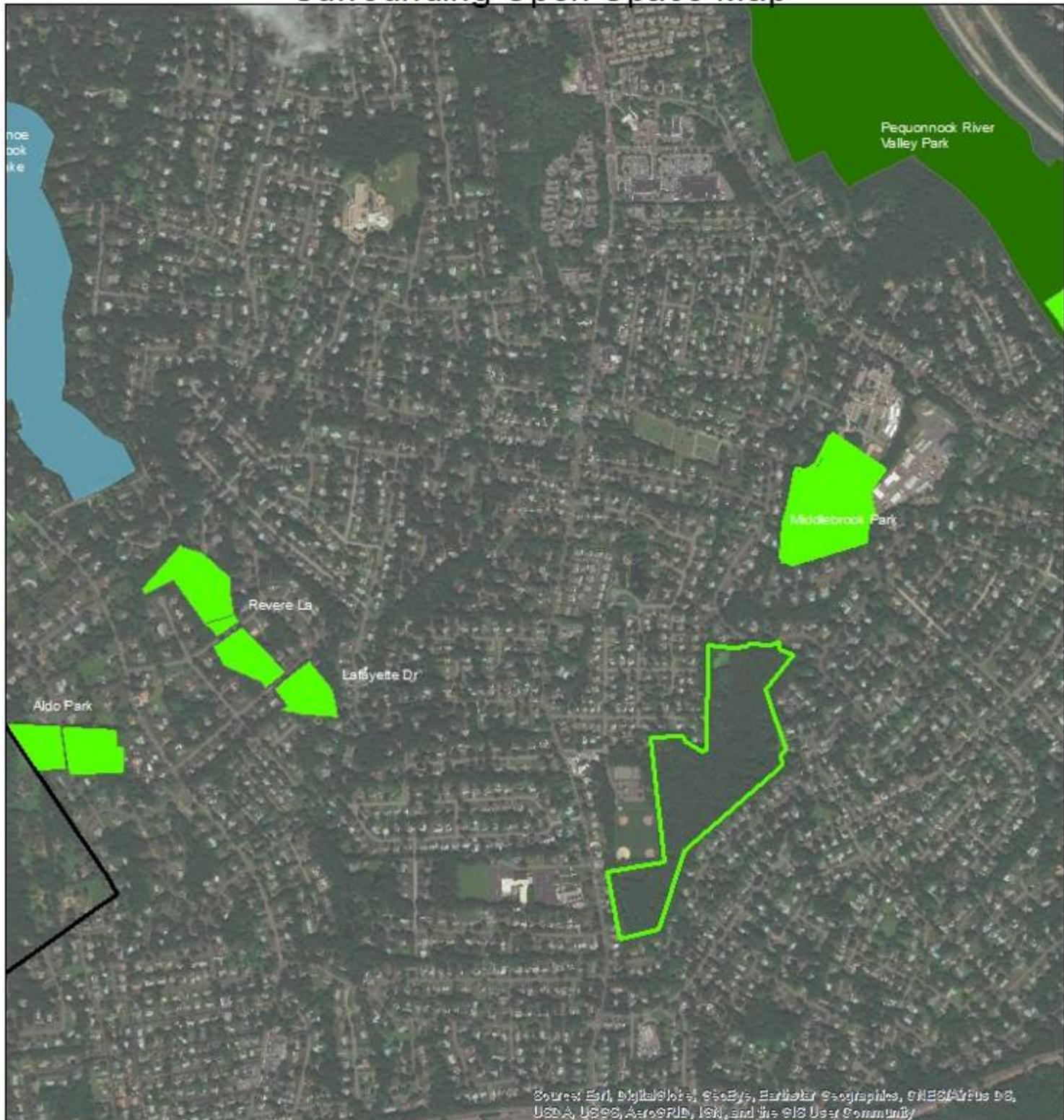
# Island Brook Park Ecological Communities Map



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<p>Island Brook Park Boundaries</p>	<p>N 1 inch = 318 feet</p>	 <p>July 23, 2020</p>
<p>Red Maple Swamp</p>		
<p>Oak-Hickory Stand</p>		
<p>Ponds</p>	<p>0 125 250 500 Feet</p>	

# Island Brook Park Surrounding Open Space Map



Island Brook Park
Open Space
Trumbull

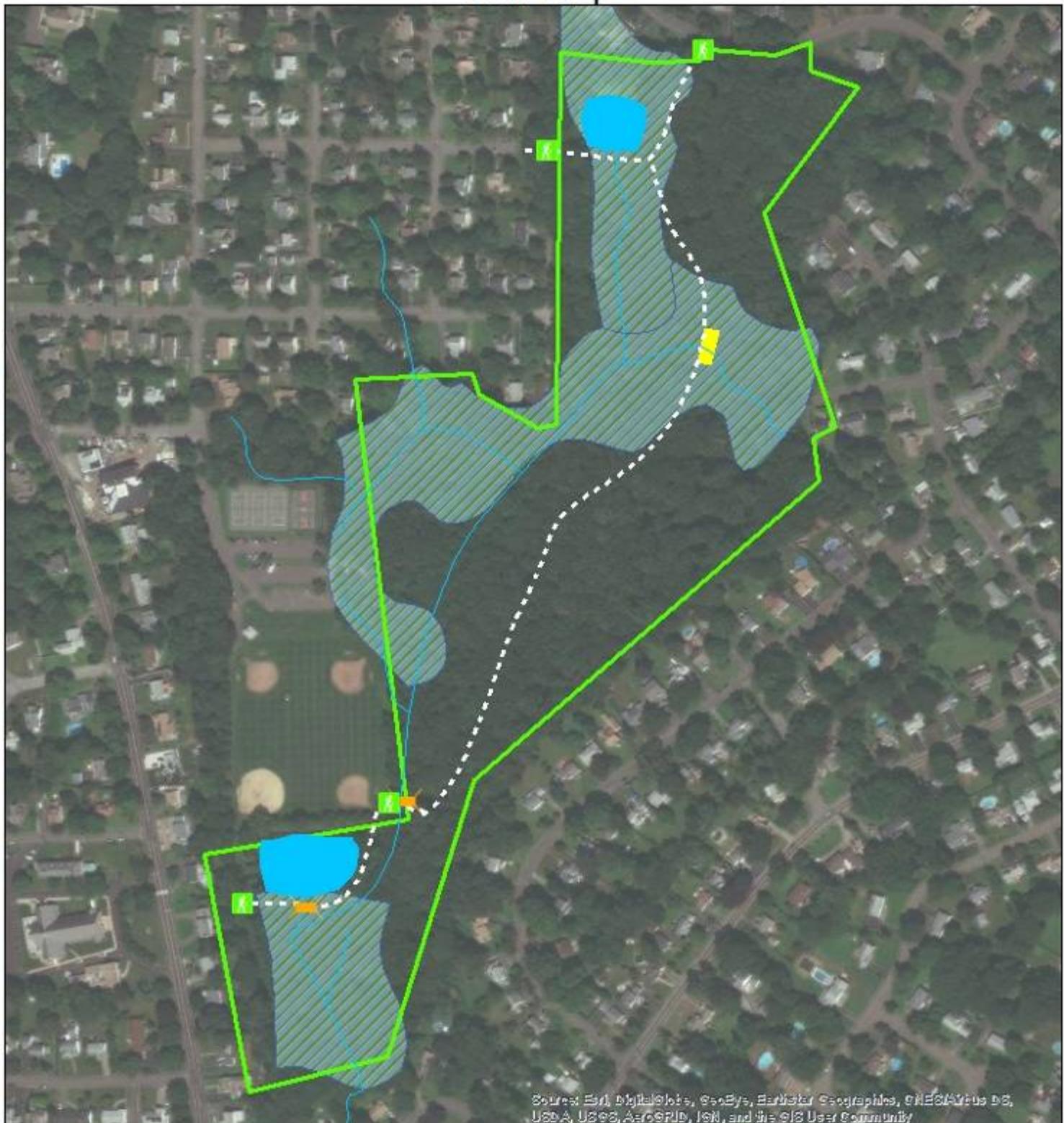


0 0.125 0.25 0.5 Miles

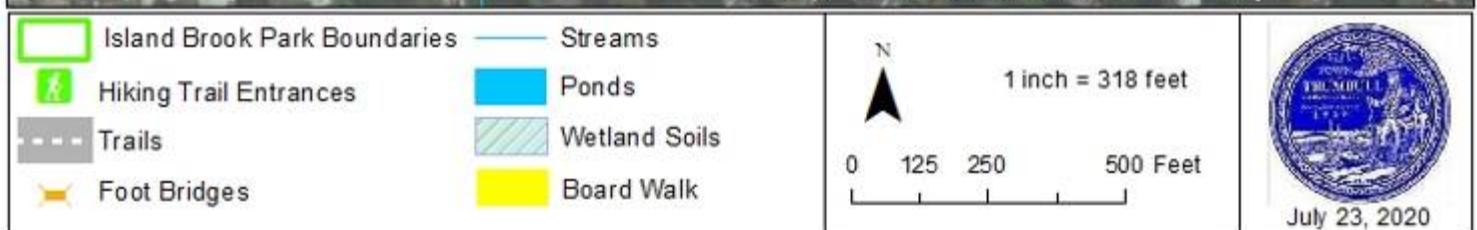
1 inch = 1,122 feet



# Island Brook Park Trail Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



THREATS:

- Flooding-the southern portion of the Park is in the FEMA flood plain
- Dumping of yard waste at north section of Park
- Invasive plants-burning bush along eastern boundary
- Litter-Park is well maintained now and litter-free

RECOMMENDATIONS:

- No dumping signs are posted along the Park's northern boundary and this area should be monitored to prevent yard waste from being left there
- The two footbridges need repair and board walking can replace the series of logs along the stream in the center of the Park
- Invasive plants including burning bush should be monitored along the eastern boundary and if possible, removed
- Trail entrance signs along with trail blazes can encourage neighbors and other residents to visit these attractive woods
- Allow a vegetative buffer to grow up and/or plant native trees, shrubs and wildflowers along the north and west shoreline of the south pond
- Continue to clean up trash

PLANT INVENTORY July 13, 2020 Field Surveys

**Trees:**

*Acer rubrum* (red maple)  
*Acer platanoides* (Norway maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Betula populifolia* (gray birch)  
*Carpinus caroliniana* (ironwood)  
*Carya ovata* (shagbark hickory)  
*Fagus grandifolia* (American beech)  
*Liriodendron tulipifera* (tulip tree)  
*Nyssa sylvatica* (tupelo)  
*Platanus occidentalis* (American sycamore)  
*Populus deltoids* (cottonwood)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Salix* spp. (willow)  
*Sassafras albidum* (sassafras)  
*Tsuga canadensis* (eastern hemlock)  
*Ulmus americana* (American elm)

**Shrubs:**

*Clethra alnifolia* (pepperbush)  
*Cornus amomum* (silky dogwood)  
*Euonymus alatus* (winged euonymus)  
*Hamamelis virginiana* (witch hazel)  
*Ilex verticillata* (winterberry)  
*Lindera benzoin* (spicebush)  
*Rosa multiflora* (multiflora rose)  
*Sambucus canadensis* (black elderberry)  
*Vaccinium angustifolium* (low-bush blueberry)  
*Vaccinium corymbosum* (high-bush blueberry)  
*Viburnum dentatum* (arrowwood viburnum)

**Vines:**

*Calystegia sepium* (morning glory)  
*Mitchella repens* (partridge berry)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Angelica atropurpurea* (purplestem angelica)  
*Apocynum androsaemifolium* (dogbane, Indian hemp)

*Aralia nudicaulis* (sarsaparilla)  
*Arisaema triphyllum* (Jack-in-the-pulpit)  
*Artemisia vulgaris* (common mugwort)  
*Aster divaricatus* (white wood aster)  
*Eupatorium purpureum* (Joe Pye weed)  
*Impatiens capensis* (orange jewelweed)  
*Maianthemum canadense* (Canada mayflower)  
*Mitchella repens* (partridgeberry)  
*Persicaria sagittata* (Persicaria arifolia) (halberd-leaved smartweed)  
*Phytolacca americana* (pokeweed)  
*Polygonum cuspidatum* (Japanese knotweed)  
*Pontederia cordata* (pickerelweed)  
*Pyrola elliptica* (shinleaf)  
*Symplocarpus foetidus* (skunk cabbage)  
*Typha latifolia* (common cattail)

**Ferns and allies:**

*Osmunda cinnamomea* (cinnamon fern)  
*Osmunda regalis* (royal fern)  
*Thelypteris noveboracensis* (New York fern)

March 18, 2020 Field Survey

**CONSERVATION VALUES** include: Forests with some trees 36 inches in diameter, evergreen groves, mountain laurel groves, rocky outcrops, wetlands, pond, riparian zones, streams and seeps, part of a 50 acre, one-mile long greenway connecting Kaatz Pond to four town-owned Topaz Lane properties to the north, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for hiking trails, nature study and passive recreation and scenic vistas.

## PROPERTY

### DESCRIPTION:

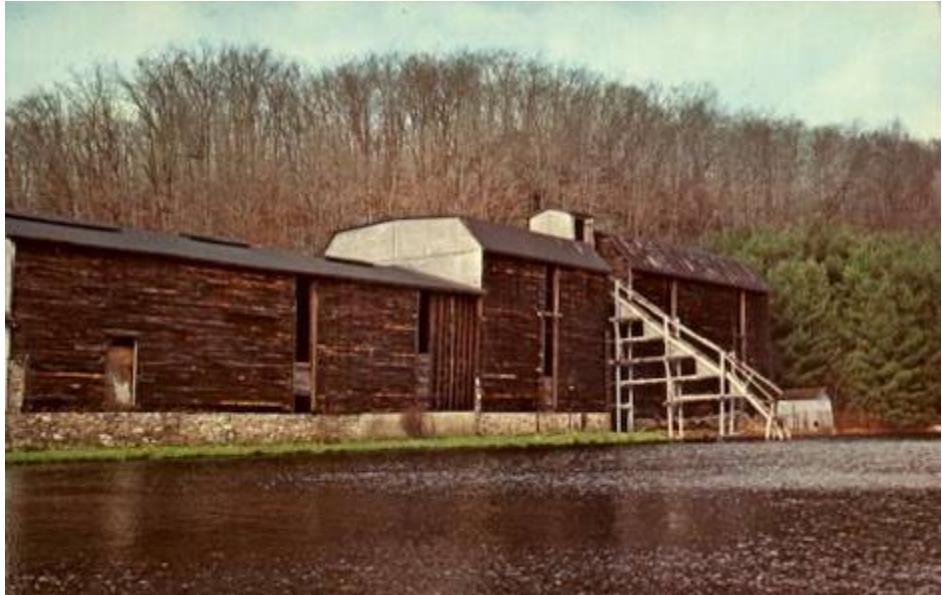
This 24 acre assemblage is comprised of three parcels located in the central portion of Trumbull just east of Route 25 (see Location Map page 157).

The southern parcel is referred to as Kaatz Pond and is located at

1 Veterans' Circle and includes the one-story American Legion

Hall. To the north and separated by Teller Road is the 9.87 acre town-owned Teller parcel and the town-owned 7.46 acre Aspen Lane parcel. All three parcels are only accessible via Teller Road. Kaatz Pond is used for fishing. The foundation of the Kaatz Icehouse can be found along the pond's northern shore.

An unnamed stream flows along the western boundary of the Aspen Lane parcel and through the center of the Teller Road parcel before emptying into Kaatz Pond. Water flows out of Kaatz Pond into the Pequonnock River located 0.3 miles to the west (see Streams & Wetlands Map page 161).



Foundations of Kaatz Icehouse, demolished in 1974, stand on the north shore of Kaatz Pond

## KAATZ POND

The three parcels are steeply sloped on both sides of the center stream with elevations of 420 feet above sea level to the west and east dropping to 300 feet at the stream bottom and pond (see Elevations Map page 159 and Topographic Map page 160). The property is surrounded by dense single-family housing to the west and east and by Route 25 to the west and south (see Surrounding Open Space Map page 163). To the north, a 12 acre greenway surrounding the unnamed stream connects the 14 acre town owned Topaz Lane parcels with the town owned Kaatz Pond parcels (see Greenway Map page 16). This greenway is identified on the Town's Plan of Conservation and Development Map as a "Greenway Opportunity Area". The 382 acre Pequonnock Valley State Park is located just south of Kaatz Pond but it is effectively separated by Route 25. The 71 acre Old Mine Park is located .15 miles northwest of Kaatz Pond.

Kaatz pond itself is 2 acres in size. The remaining 5 acres of the Kaatz Pond parcel is steeply sloped and wooded (see Satellite Photograph Map page 158 and Ecological Communities Map page 162). Vegetation immediately surrounding the American Legion Hall and parking lot has invasive plants typically found in high traffic areas such as this and include: small to medium sized ailanthus ("tree of heaven") trees, small to medium sized locust trees, autumn olive, multi-flora rose, forsythia and juniper shrubs. The ground layer is also mostly invasive plants including Japanese knotweed, phragmites, stilt grass, mugwort and garlic mustard. A large Norway spruce grows close to the building. Native sumac, flowering dogwood, raspberry and green briar also grow here.



Steep hillside north of pond



Rock outcrops at top of hillside north of pond

## KAATZ POND

Just beyond the parking lot, however, the woods consist of healthy native mixed deciduous and coniferous trees and shrubs. The lower hillside has medium to large red and sugar maple trees. The upper hillside has large red and white oak trees averaging 18 to 24 inches in diameter along with medium sized sugar maples. Beeches grow at the top of the hillside which has many large rock outcroppings. The hillside's understory consists of sugar maple and hickory saplings. Native maple leaf viburnum shrubs are very common in the hillside's shrub layer. Grape vines are common. The ground layer has some Pennsylvania sedge and wintergreen and would be denser in the growing seasons.

A large, 1 acre grove of white pine have been planted along the pond's north shore where the icehouse stood until 1974. The white pines are 12 to 18 inches in diameter with an estimated age of 50 years, which is about how long the area has been vacant. Other trees include several large cottonwood trees along with smaller red maple and ironwood trees close to the shore. Hundreds of small sugar maple saplings grow beneath the white pines along with black birch and bitternut hickories and witch hazel shrubs. As the white pines age and succumb to high winds and storms, this healthy and dense understory of native trees will help the stand regenerate.

## KAATZ POND

The 1-acre wooded stand between the Veterans' Circle driveway and Whitney Avenue has small to medium sized red maple, beech, black oak and hemlocks with an understory of gray birch, black birch, sassafras and small hemlock and Norway spruce saplings.

The pond's shoreline has many native shrubs including sweet pepperbush, alder, elderberry, spicebush and red osier dogwood along with small pussy willow and serviceberry trees and larger cottonwood and big tooth aspen trees. This healthy, native vegetative buffer and the white pine grove above it help to keep the pond cleaner and cooler, benefitting the sunfish, bass and other fish and wildlife that live here.



Alder and red osier dogwood shrubs along shoreline

## KAATZ POND

The Teller Road Parcel is 9.87 acres and is also town-owned. The area is much wetter than the Kaatz Pond parcel with red maple, red oak and tulip trees growing in the low area around the stream that flows through the center of the parcel and into Kaatz Pond. Many of the oak trees are multi-stemmed, evidence that they had been logged in the past and have since re-grown.

The understory has yellow and black birch trees and beech and sugar maple saplings. Spice bush shrubs grow closest to the stream with witch hazel and maple leaf viburnum in higher, drier spots. The ground layer includes skunk cabbage and false hellebore along with tussock sedge. The bottomland around the stream, though wet, is also very rocky.



Many multi-trunked oaks indicate past logging



Unnamed stream flowing into Kaatz Pond: View north on left; view south on right

The east side of the stream is gentler sloped than the west side, which is extremely steep. A large, 2 acre grove of mountain laurel grows on the east side of the stream, straddling the Teller Road and Aspen Lane parcels. Red maple, ash, bitternut hickory and hemlocks make up the canopy with princess pine, trout lily and toothwort (both spring ephemeral wildflowers) on the ground layer.



Large, 2-acre mountain laurel grove at  
Teller Road-Aspen Lane

The west side of the stream is extremely steep and rocky and has the only chestnut oaks found on the three parcels. Other trees on the hillside include black and red oak and sugar maple.



Steep hillside and rocks along west side of Teller Lane parcel

Further to the north and into the 7.46 acre Aspen Lane parcel, also town-owned, the trees are much larger with several tulip trees that are 3 feet in diameter along with large beech, sugar maple and white oak.



The rich bottomland is home to many woodpeckers

The strip of land between the wet bottomland along the stream and the very steep hillside is flat and dry and could make an interesting hiking trail. Although the Aspen Lane parcel has frontage on Aspen Lane, it is sandwiched between two private homes and is therefore not accessible. Any trail would have to loop back to Teller Lane, perhaps on along the other side of the stream.



Frontage at Aspen Lane is not accessible

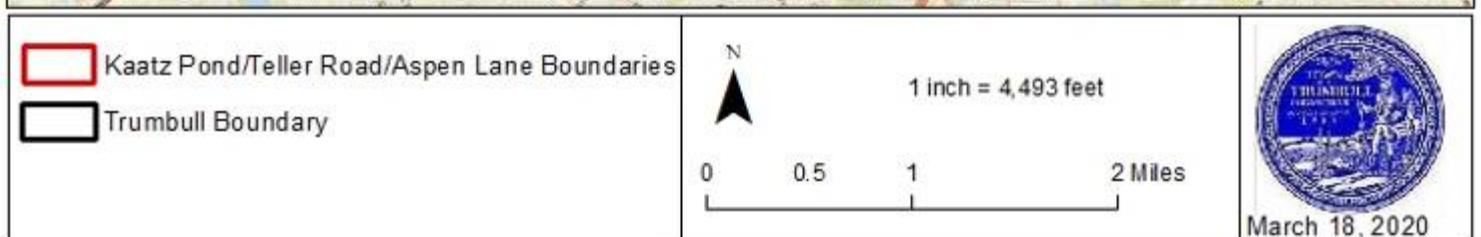
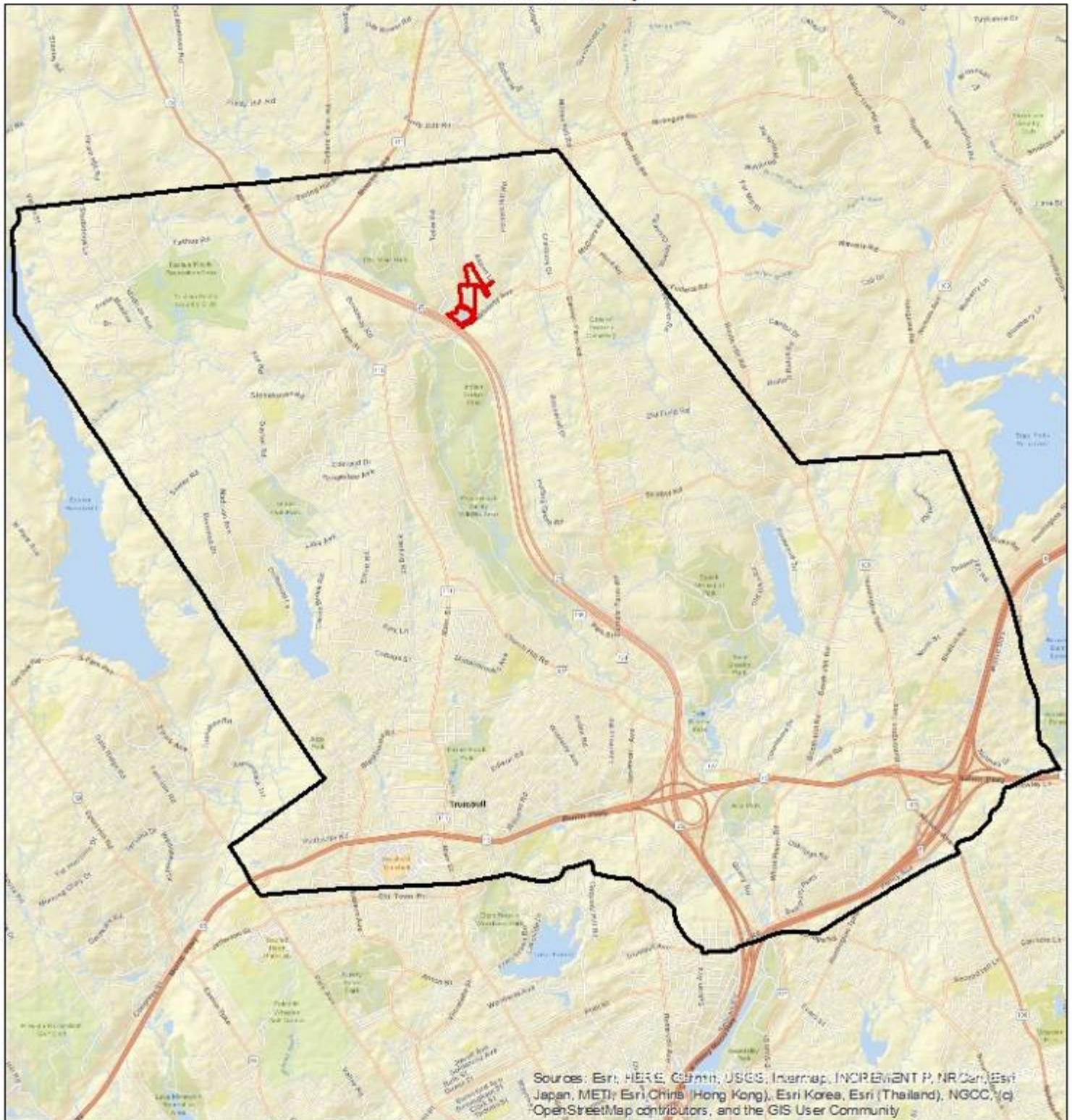
## KAATZ POND

### ECOLOGICAL COMMUNITIES:

Kaatz Pond and the two adjacent parcels have the following ecological communities described above (see Ecological Communities Map page 162 and Plant Inventory page 147):

Mixed Deciduous	9 acres
Wetland	4 acres
Steep Hillside	3 acres
Pond	2 acres
Mountain Laurel	2 acres
Rock Outcrop	1 acre
White Pine Grove	1 acre
Mixed Deciduous-Coniferous	1 acre
Shrub Shoreline	<u>1 acre</u>
	24 acres

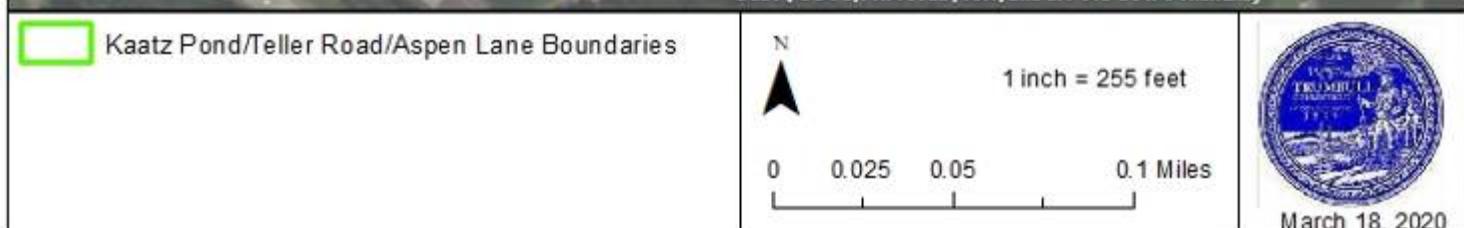
# Kaatz Pond/Teller Road/Aspen Lane Location Map



# Kaatz Pond/Teller Road/Aspen Land Satellite Photograph Map



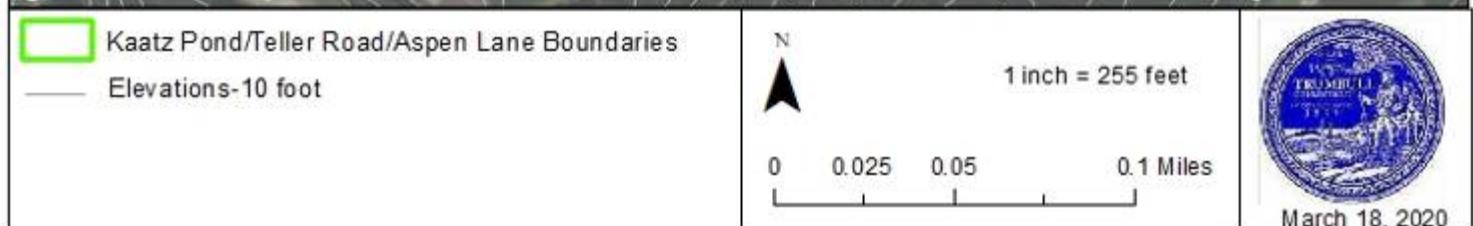
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



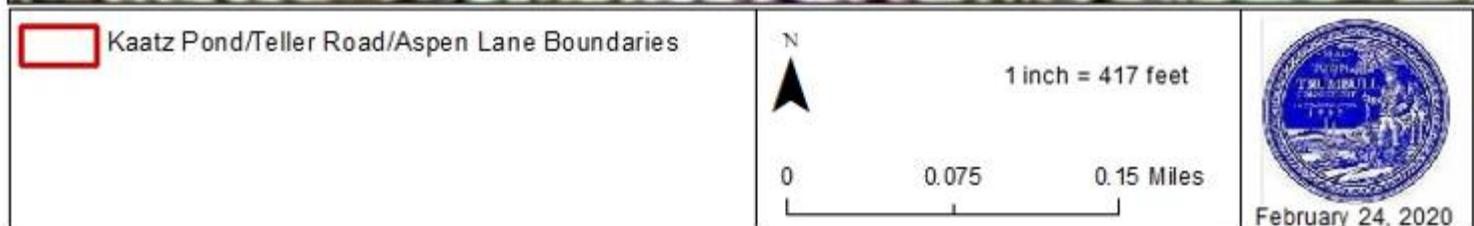
# Kaatz Pond/Teller Road/Aspen Land Elevations Map



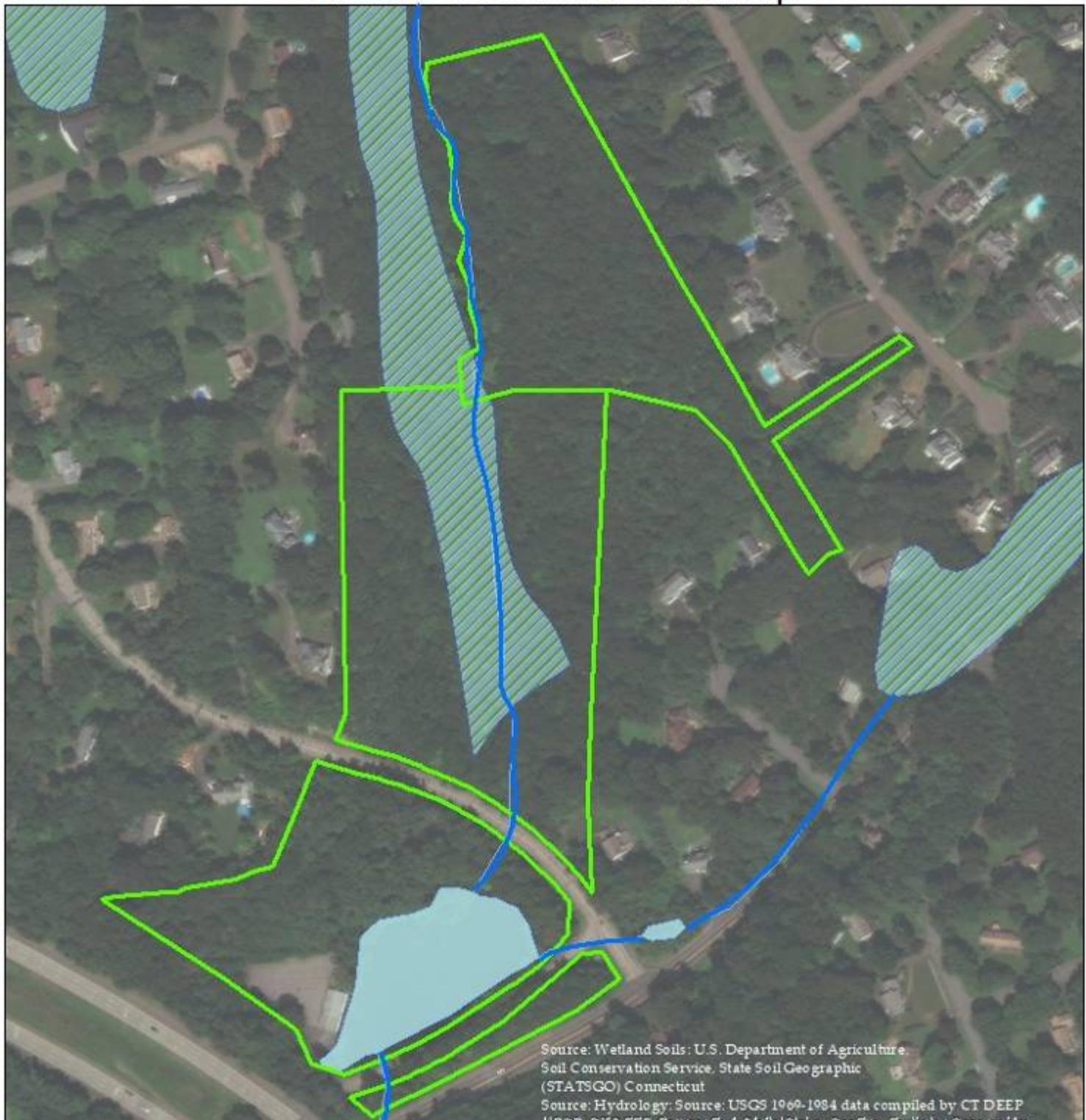
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, Aerial3D, IGN, and the GIS User Community



# Kaatz Pond/Teller Road/Aspen Lane Topographic Map



# Kaatz Pond/Teller Road/Aspen Land Streams & Wetland Soils Map



Kaatz Pond/Teller Road/Aspen Lane Boundaries
Wetland Soils
Streams & Rivers
Pond

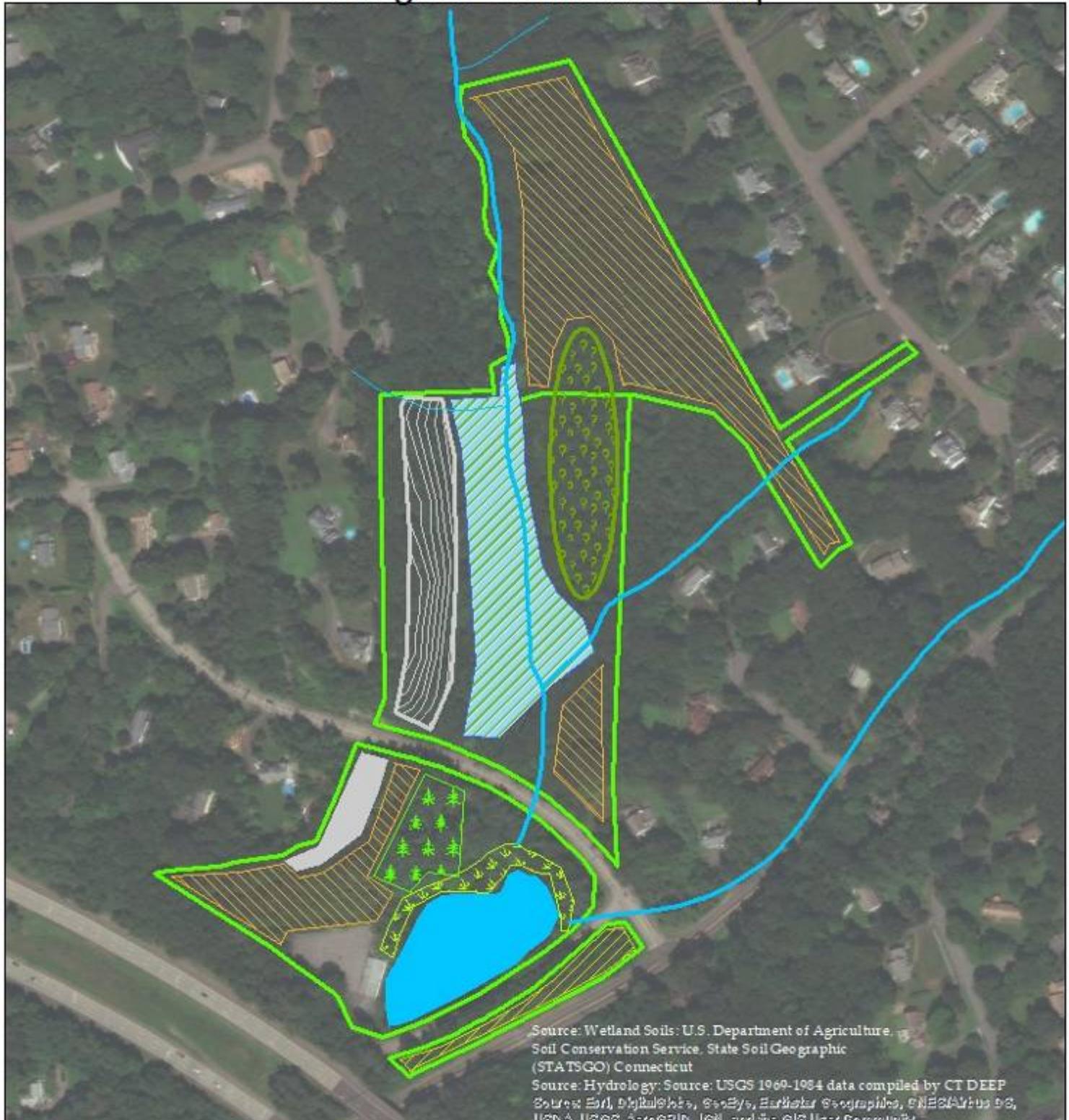


1 inch = 263 feet  
0 0.025 0.05 0.1 Miles



March 18, 2019

# Kaatz Pond/Teller Road/Aspen Lane Ecological Communities Map

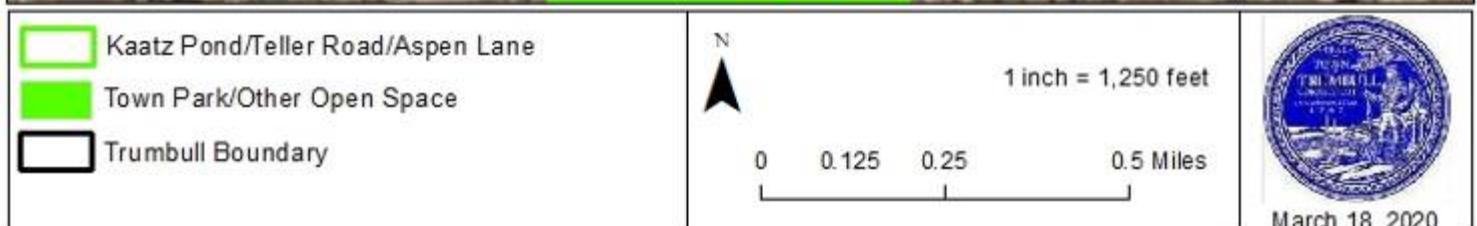
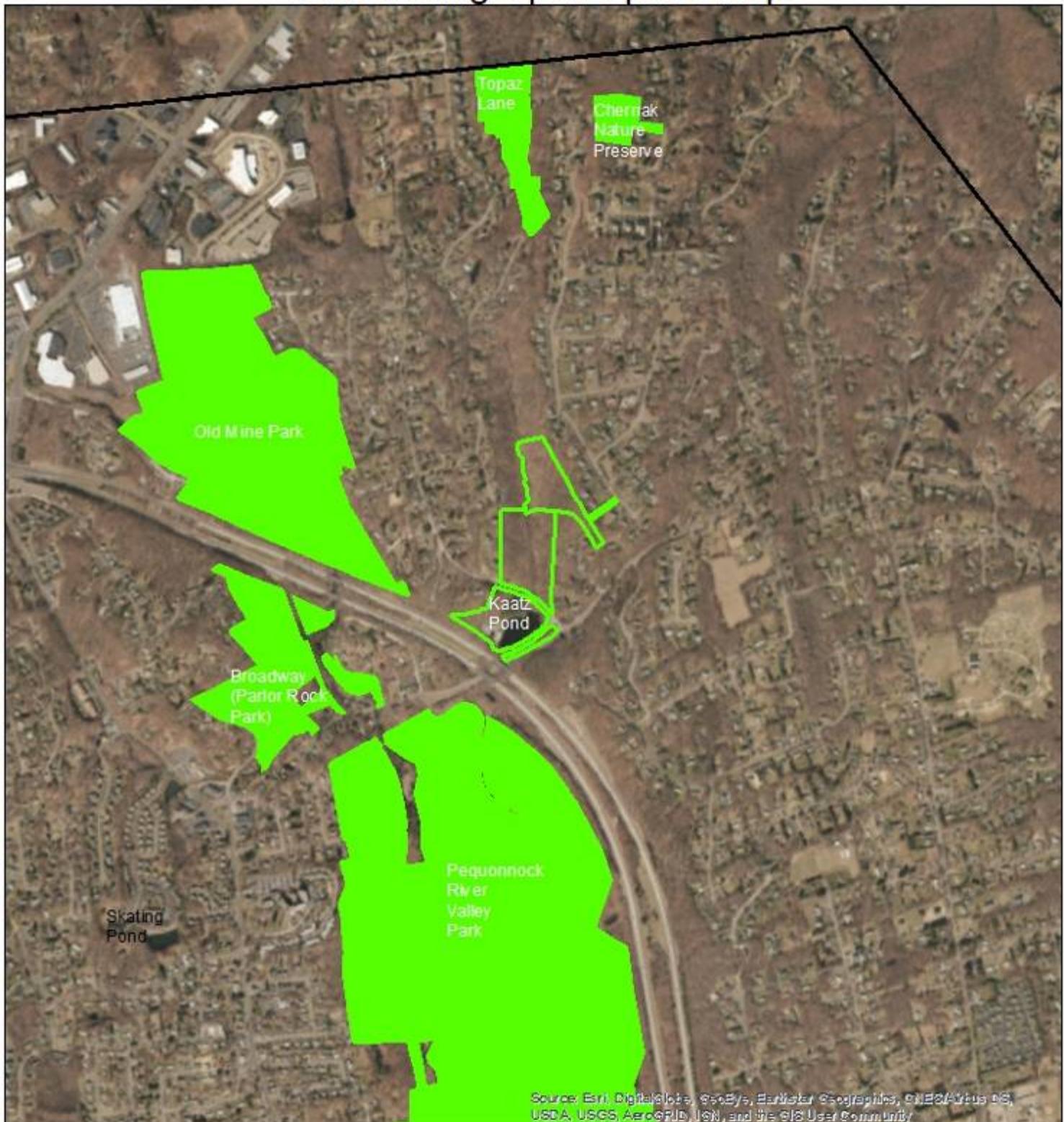


Source: Wetland Soils: U.S. Department of Agriculture, Soil Conservation Service, State Soil Geographic (STATSGO) Connecticut

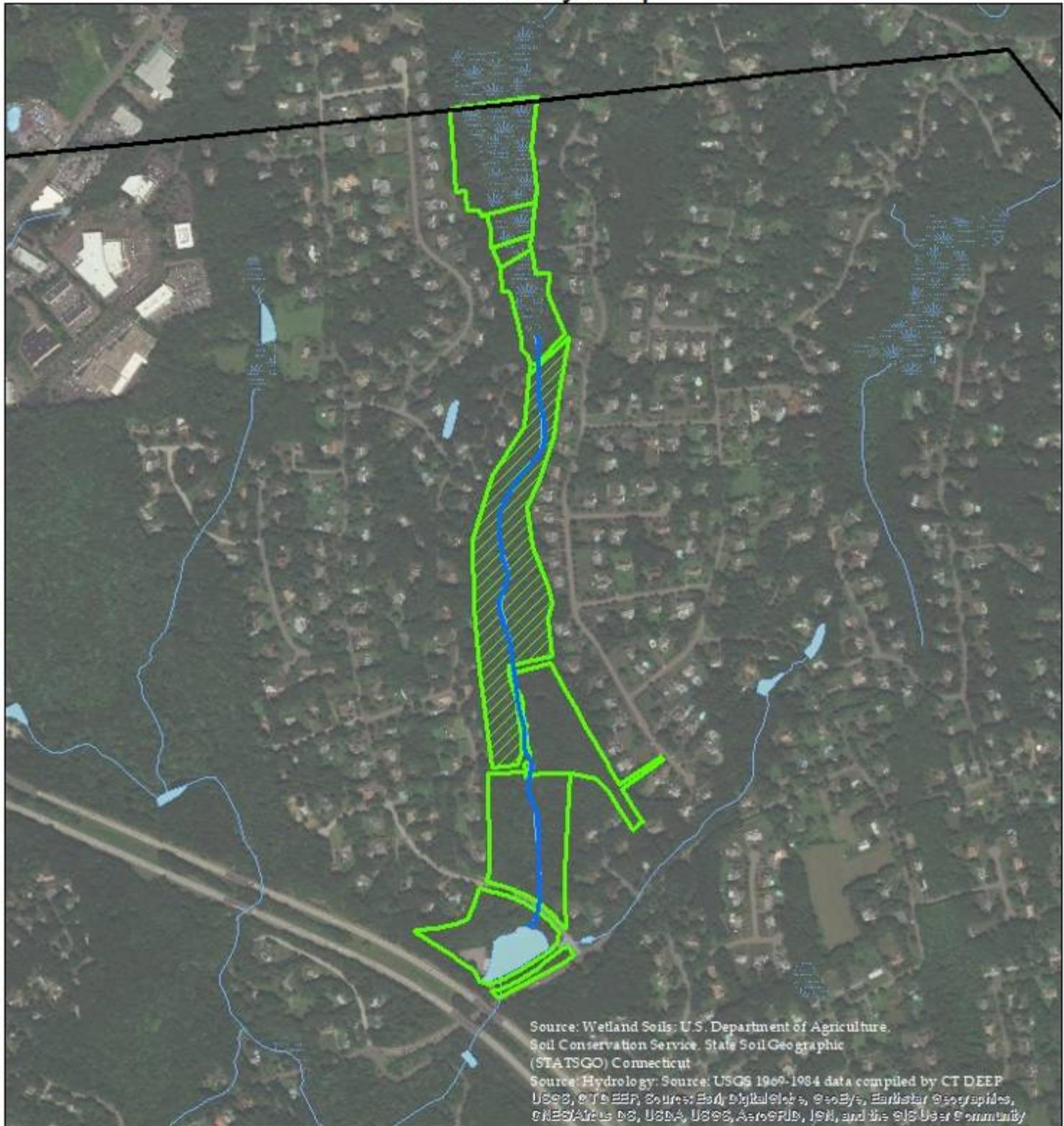
Source: Hydrology: Source: USGS 1969-1984 data compiled by CT DEEP, Bureau of Geology, Geology, Earthquake Seismology, Connecticut Geological Survey, USDA, USGS, AerospIRB, ION, and the GIC User Community

<ul style="list-style-type: none"> <li><span style="border: 1px solid green; display: inline-block; width: 15px; height: 10px; vertical-align: middle;"></span> Kaatz Pond/Teller Road Aspen Lane Boundaries</li> <li><span style="border: 1px solid grey; display: inline-block; width: 15px; height: 10px; vertical-align: middle;"></span> Rock Outcrop</li> <li><span style="border: 1px solid lightgrey; display: inline-block; width: 15px; height: 10px; vertical-align: middle;"></span> Steep Hillside</li> <li><span style="border: 1px solid yellow; display: inline-block; width: 15px; height: 10px; vertical-align: middle;"></span> Mixed Deciduous Stand</li> <li><span style="border: 1px solid green; display: inline-block; width: 15px; height: 10px; vertical-align: middle;"></span> Mountain Laurel Grove</li> </ul>	<ul style="list-style-type: none"> <li><span style="border: 1px solid green; display: inline-block; width: 15px; height: 10px; vertical-align: middle;"></span> White Pine Grove</li> <li><span style="border: 1px solid blue; display: inline-block; width: 15px; height: 10px; vertical-align: middle;"></span> Streams &amp; Rivers</li> <li><span style="border: 1px solid blue; display: inline-block; width: 15px; height: 10px; vertical-align: middle;"></span> Wetlands</li> <li><span style="border: 1px solid yellow; display: inline-block; width: 15px; height: 10px; vertical-align: middle;"></span> Shrub Shoreline</li> <li><span style="border: 1px solid blue; display: inline-block; width: 15px; height: 10px; vertical-align: middle;"></span> Pond</li> </ul>	<div style="text-align: center;">  N  1 inch = 274 feet </div> <div style="text-align: center;"> </div>	 March 18, 2019
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# Kaatz Pond/Teller Road/Aspen Lane Surrounding Open Space Map

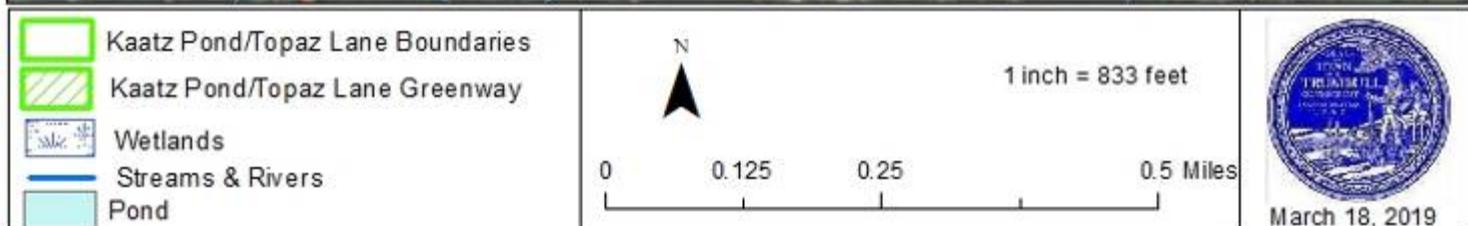


# Kaatz Pond/Topaz Lane Greenway Map



Source: Wetland Soils: U.S. Department of Agriculture, Soil Conservation Service, State Soil Geographic (STATSGO) Connecticut

Source: Hydrology: Source: USGS 1969-1984 data compiled by CT DEEP. Users, eTIGER, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, iERA, and the GIS User Community



THREATS:

- Erosion on steep slopes
- Clearing by neighbors
- Invasive plants may spread
- Litter

RECOMMENDATIONS:

- Steep slope protection
- Monitor/remove invasive plants if spreading
- Add wood duck boxes around pond
- Trails-create a loop trail from Teller Road north on both sides of stream
- Monitor/Clean up litter

## KAATZ POND

PLANT INVENTORY MARCH 18 & March 25, 2020 (more species would be observed during the growing seasons):

### Trees:

*Acer platanoides* (Norway maple)  
*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Ailanthus altissima* (tree of heaven)  
*Amelanchier arborea* (serviceberry)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Betula populifolia* (gray birch)  
*Carpinus caroliniana* (ironwood)  
*Carya cordiformis* (bitternut hickory)  
*Cornus florida* (flowering dogwood)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Hamamelis virginiana* (staghorn sumac)  
*Liriodendron tulipifera* (tulip tree)  
*Picea abies* (Norway spruce)  
*Pinus strobus* (white pine)  
*Populus deltoids* (cottonwood)  
*Populus grandidentata* (big-toothed aspen)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Robinia pseudoacacia* (black locust)  
*Salix spp.* (willow)  
*Sassafras albidum* (sassafras)  
*Tsuga canadensis* (eastern hemlock)

### Shrubs:

*Alnus serrulata* (smooth [common] alder)  
*Berberis thunbergii* (Japanese barberry)  
*Chimaphila maculata* (pipsissewa, spotted/striped wintergreen)  
*Clethra alnifolia* (pepperbush)  
*Cornus sericea* (red osier dogwood)  
*Elaeagnus umbellata* (autumn olive)  
*Hamamelis virginiana* (witch hazel)  
*Kalmia latifolia* (mountain laurel)  
*Lindera benzoin* (spicebush)  
*Rosa multiflora* (multiflora rose)  
*Rubus phoenicolasius* (wineberry)  
*Rubus spp.* (blackberry)  
*Sambucus canadensis* (black elderberry)  
*Viburnum acerifolium* (maple leaf viburnum)

### Herbs:

*Alliaria petiolata* (garlic mustard)  
*Artemisia vulgaris* (common mugwort)

Chimaphila maculata (spotted wintergreen)  
Dentaria diphylla (toothwort)  
Erythronium americanum (trout lily)  
Fallopia japonica (Japanese knotweed)  
Pyrola elliptica (shinleaf)  
Symplocarpus foetidus (skunk cabbage)  
Varatrum viride (false hellebore)

**Vines:**

Celastrus orbiculatus (Asiatic bittersweet)  
Parthenocissus quinquefolia (Virginia creeper)  
Smilax rotundifolia (greenbrier)  
Toxicodendron radicans (poison ivy)  
Vitis sp. (grape)

**Sedges & Rushes:**

Carex pensylvanica (Pennsylvania sedge)  
Carex stricta (tussock sedge)

**Grasses:**

Microstegium vimineum (stilt grass)  
Phragmites australis (giant reed grass)

**Ferns and allies:**

Lycopodium obscurum (ground pine)  
Polystichum acrostichoides (Christmas fern)

**Fish expected to be observed:**

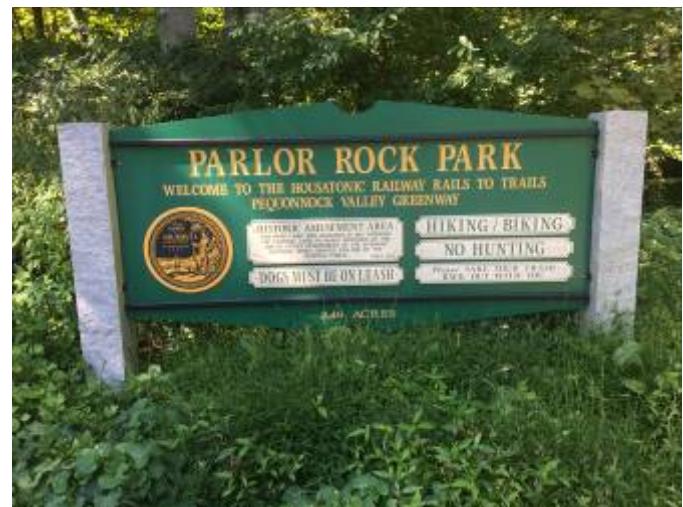
Lepomis gibbosus, pumpkinseed  
Lepomis macrochirus, bluegill  
Micropterus salmoides, largemouth bass  
Micropterus dolomieu, smallmouth bass

September 3 & 17, 2019 Field Surveys

**CONSERVATION VALUES** include: Forests including mature interior forests, hemlock groves, hiking trails, wetlands, riparian zones, floodplain forests, sections of the Pequonnock River, streams and seeps, greenway connecting with Pequonnock River Valley Park and DOT parcels, Pequonnock River Trail and other hiking trails, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study, historic sites and scenic vistas.

PROPERTY DESCRIPTION:

Parlor Rock Park (referred to as the Broadway and Riverside parcels) consists of two adjoining town-owned parcels located in the north-central section of Trumbull along Route 25 (see Location Map page 175). Broadway is an 18-acre parcel and Riverside is a 2.5 acre parcel. The Pequonnock River Rail-Trail runs along the eastern boundary of Broadway and through the center of Riverside (see Hiking Trails Map page 182). Other unpaved trails crisscross the Riverside parcel, all ending up at the Pequonnock River below. Two other hiking trails run through Broadway. A formal trail entrance is at Whitney Avenue at the Rail-Trail entrance with parking across the street. Informal trail entrances are found along Broadway Road with parking for perhaps two cars and at the end of Overlook Place with parking for several cars. Informal mountain bike trails run just north of the Broadway parcel on land that appears to be owned by



Trail entrance at Whitney Avenue



Pequonnock Rail-Trail

## PARLOR ROCK PARK

the Department of Transportation (efforts to identify these two parcels totaling 22 acres and another 1 acre parcel just east of the Broadway parcel were unsuccessful at the Town Planning, Engineering and Tax Departments).

This area has an interesting history, with several old homes and foundations in the area, the site of the Beers Mill Depot at Whitney Avenue, the Housatonic Railroad which ran until 1932 and the Parlor Rock Amusement Park, built in 1877. Parlor Rock is named after a large boulder on the property and was then, as it is today, a popular hiking spot. The Pequonnock River was dammed here, creating Lake High-High, which has since been dismantled, draining the lake and returning the river to its natural course. The popularity of the Amusement Park waned with Prohibition in the 1920's and was turned over to the Town of Trumbull in 1981. The only sign of the former amusement park is the base of the decorative water fountain just east of the Rail Trail.<sup>70</sup>



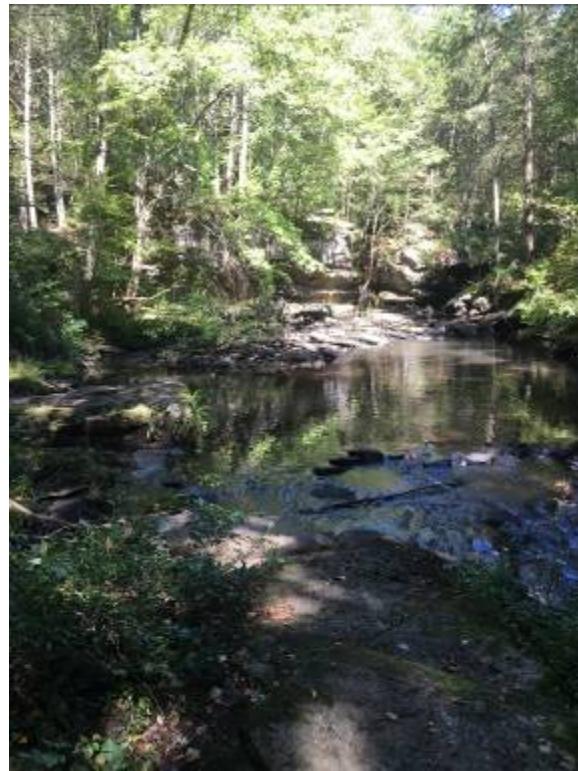
Sign at site of Beers Mill Depot along Rail-Trail



Remains of foundation from Parlor Rock Amusement Park

<sup>70</sup> Wayne Sakal. "The Parlor Rock Story".

The land is steeply sloped down to the Pequonnock River with many rock outcroppings that, in combination with the hemlock forest, create spectacular vistas for hikers. The river has many cascades and is surrounded by rugged rock walls.



View north along Pequonnock River

Both parcels are entirely wooded with hemlock, maple-beech and oak-hickory woods (see Satellite Photograph Map page 176 and Ecological Communities Map page 181). The hemlocks are thinning and appear to be suffering from wooly adelgid disease caused by a non-native aphid. Two streams flow from the western boundary east into the Pequonnock River. A 2-acre wetland lies in the northwest corner of the Broadway parcel (see Wetland Soils Map page 179). Elevations drop from 420 feet above sea level at the west boundary down to 180 above sea level at the Pequonnock River (see Elevation Map page 177 and Topographic Map page 178). The parcels abut the Pequonnock River Valley Park and Indian Ledges Park to the south, three unnamed wooded parcels to the east and north most likely owned by the Department of Transportation and Kaatz Pond and Old Mine Park across Route 25 to the east Trail (see Surrounding Open Space Map page 180). Old Mine Park and

the Pequonnock River Valley Park are connected to these two parcels by the Pequonnock River Rail-Trail. A 1.1 acre wooded parcel lies within the Broadway parcel. An old foundation indicates that a home was here in the distant past. The parcel apparently has a right of way by the Rail Trail to gain access to Whitney Avenue. It is currently (September, 2019) for sale to be developed. The Town should consider buying this parcel to complete the Broadway-Riverside greenway and to prevent a single family home and driveway from disrupting the Rail Trail experience.

## PARLOR ROCK PARK

### ECOLOGICAL COMMUNITIES:

The Broadway-Riverside parcels have the following ecological communities (see Ecological Communities Map page 181 and Plant Inventory page 184):

Hemlock Forest	10 acres
Maple-Beech Forest	6 acres
Oak-Hickory Forest	2 acres
Red Maple Swamp	2 acres

HEMLOCK FOREST 10 acres

This area is dramatic and picturesque with evergreen hemlocks growing along with beech above low bush blueberry shrubs and wintergreen and partridgeberry. As is the case across the eastern United States, these hemlocks are suffering from wooly adelgid infection, caused by the non-native aphid that first appeared in Connecticut in 1992. Wooly adelgid kills the trees in as little as six years and because of its rapid spread it is predicted that wooly adelgid will overwhelm the majority of the eastern hemlocks in the eastern United States, threatening this keystone species with extinction.<sup>71</sup> Many hemlocks are already thinning, with growth only at the top of the tree, while other hemlocks are still healthy. Hemlocks are one of the most ecologically important tree species in the northeastern forests. They are extremely shade tolerant, grow in riparian (stream) areas such as those found along the Pequonnock River, keep stream temperatures cool, prevent stream bank erosion, purify storm water and provide thermal protection in the winter for wildlife in addition to providing nesting, feeding and roosting sites during the rest of the year. Hemlock trees provide food (through their seed cones) and habitat for more than 90 species of birds and many other types of wildlife.

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<sup>71</sup> McClure, M.S., Salon, S.M., and Shields, K.S. (2001) *Hemlock Wooly Adelgid*. Forest Health Technology Enterprise Team. U.S. Forest Service Publication FHTET-2001-03.

Long term hope for saving hemlocks rests in biocontrol-the release of insects that naturally prey on the wooly adelgid aphid in their original sites in Asia. Until a biological control can be found, systemic insecticides are the most effective and least costly treatment for wooly adelgids, according to Mark Whitmore, Forest Entomologist, Cornell University.<sup>72</sup> Although herbicides and pesticides are damaging to the environment, in some cases their use is warranted.<sup>73</sup> While the entire grove cannot be treated, it may make sense to treat some of the hemlocks, particularly those along the Rail-Trail that may present a safety hazard as they die. By keeping some alive, enough hemlock seeds will survive so that the hemlock grove can regenerate if the whooly adelgid is controlled or dies out.

#### MAPLE-BEECH FOREST 6 acres

This stand grows along the higher elevation ridge in the center of the Broadway parcel. The area is steeply sloped with dry, shallow soils and has chestnut, red and black oaks of medium size in the canopy. Chestnut oaks are somewhat unusual for this region. The understory has red maple, beech and sassafras while the shrub layer has mountain laurel, low bush blueberry and maple-leaf viburnum. The ground layer has blue cohosh, Pennsylvania sedge, sarsaparilla, partridgeberry, Canada mayflower, white wood aster, shinleaf and New York, hay-scented and Christmas fern.



Blue cohosh

<sup>72</sup> Whitmore, Mark. (November, 2014). *Insecticide Treatment of Hemlock Trees for Hemlock Wooly Adelgid in New York State*. Cornell University Cooperative Extension Publication.

<sup>73</sup> Webb, Ralph E., Frank, J. Ray, and Raupp, Michael J. (September 2003). *Eastern Hemlock Recovery from Wooly Adelgid Damage Following Imidacloprid Therapy*. Journal of Arboriculture 29(5) 298-302.

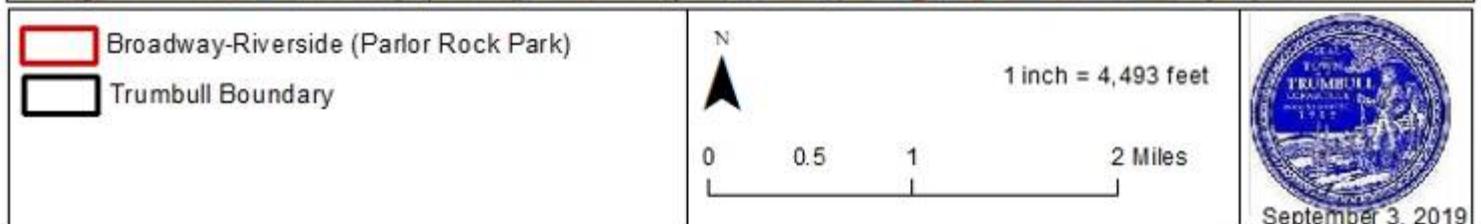
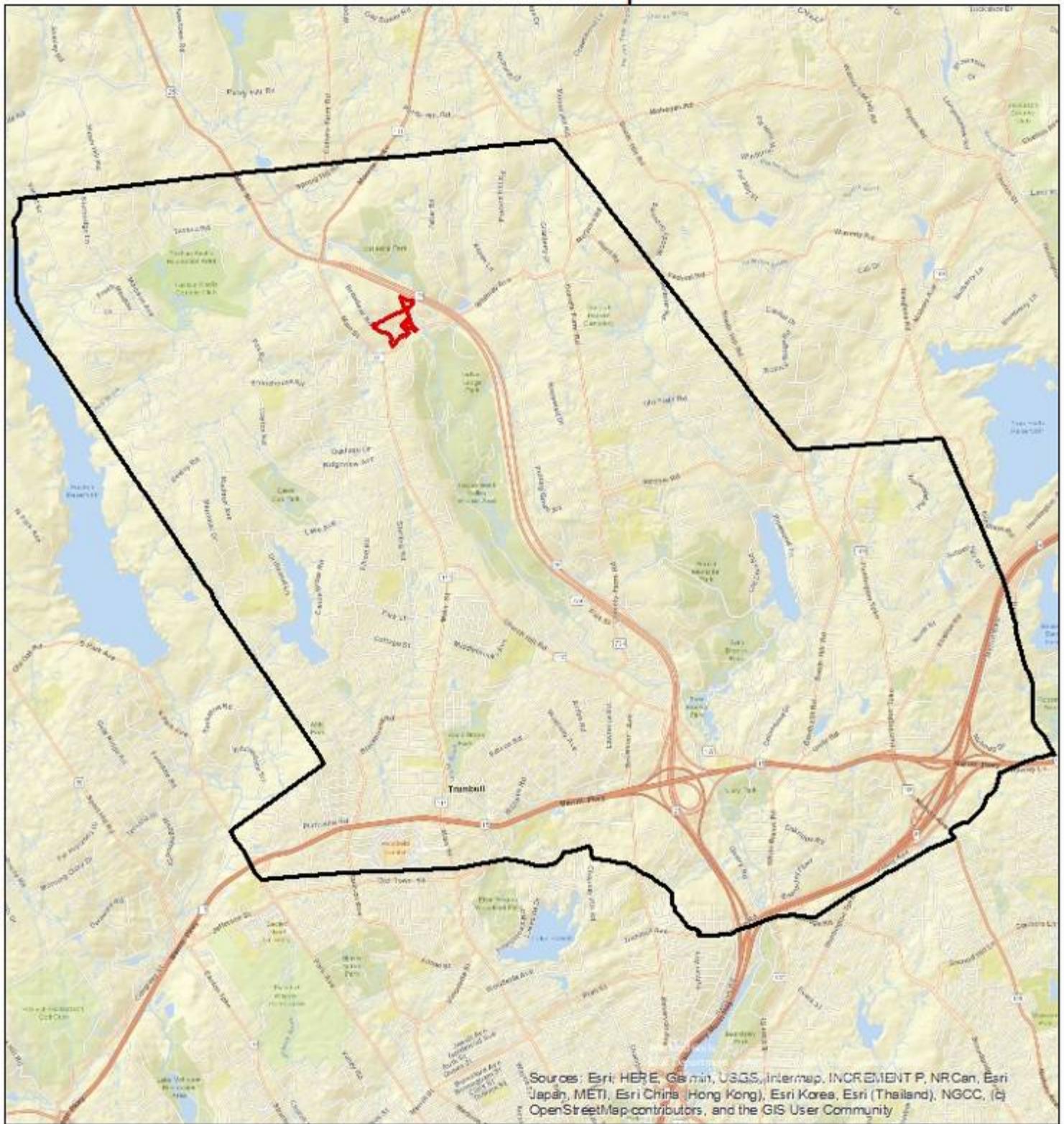
0AK-HICKORY FOREST 2 acres

This stand is located on the Riverside parcel. Black and red oaks and hickories along with planted white pines grow above maple leaf viburnum shrubs and some non-native, invasive burning bush and autumn olive shrubs that grow close to Route 25--invasive plants are common along heavily travelled roads such as this. These should be monitored to be sure they do not spread into the rest of the parcels, especially as hemlocks die off and create sunlit openings in the canopy that are conducive to the spread of invasive plants. Interesting ground layer plants here include white goldenrod ('silverrod'), Solomon's seal, seersucker sedge and wintergreen.

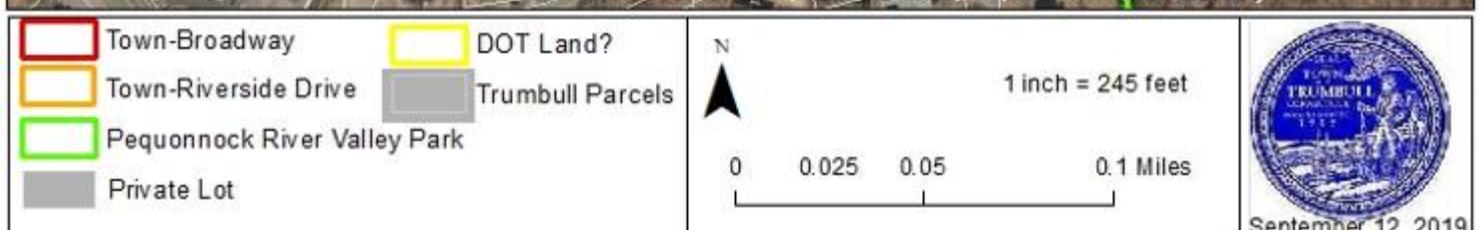
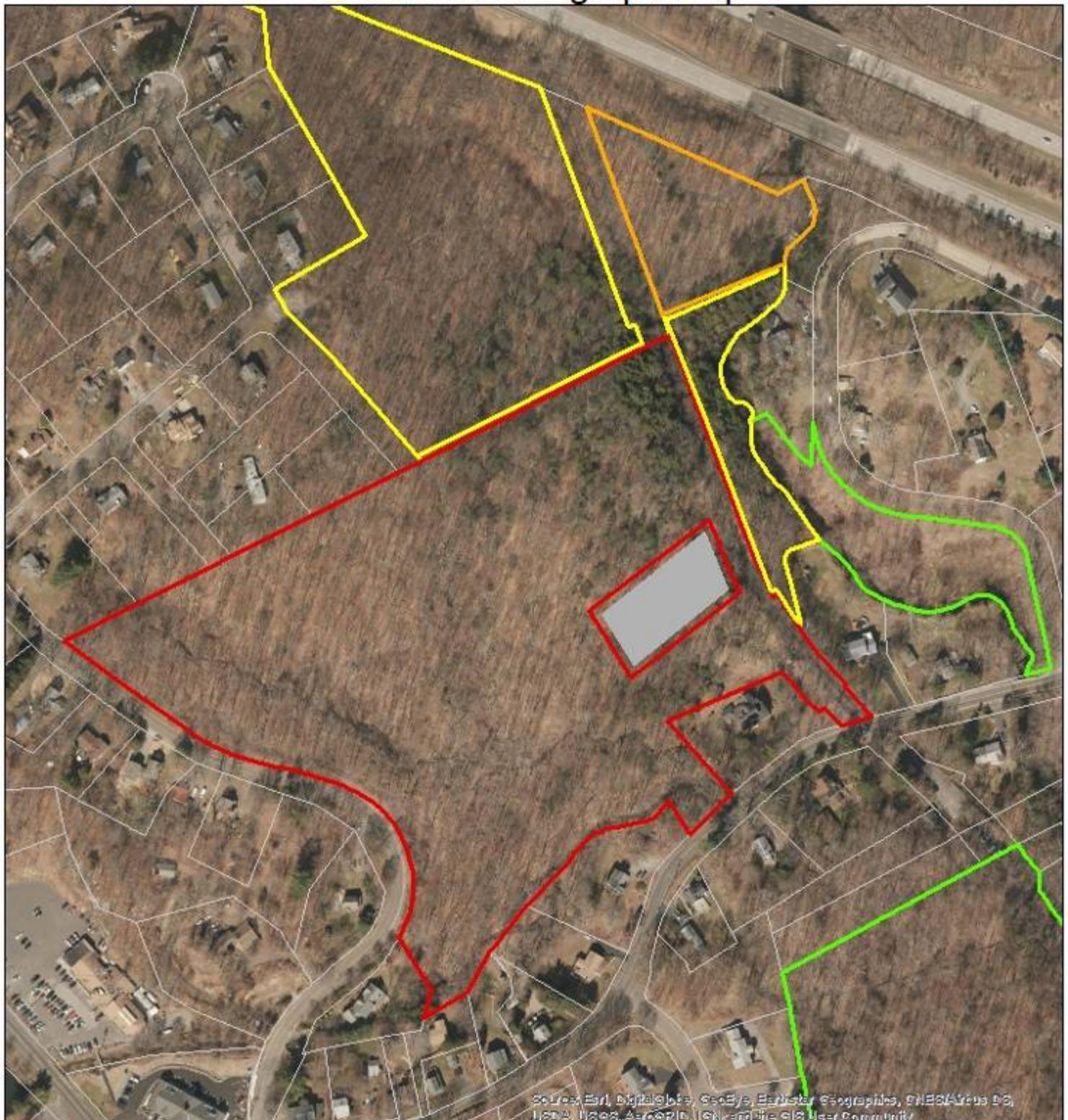
RED MAPLE SWAMP: 2 acres

This area is located in the far northwest section of Broadway. Trees here are medium-sized red maple, tupelo, black oak and black birch. The understory has beech, black birch and sassafras saplings. Spicebush grows in the shrub layer. The ground layer consists of jewelweed, skunk cabbage and cinnamon fern.

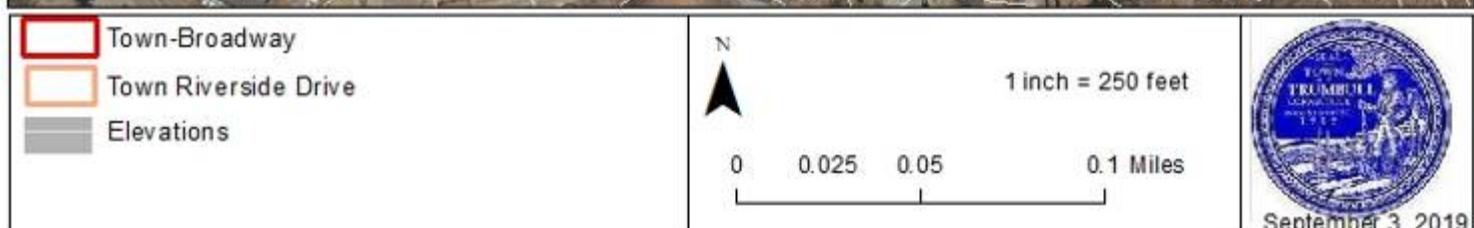
# Broadway/Riverside (Parlor Rock Park) Location Map



# Broadway/Riverside (Parlor Rock Park) Satellite Photograph Map



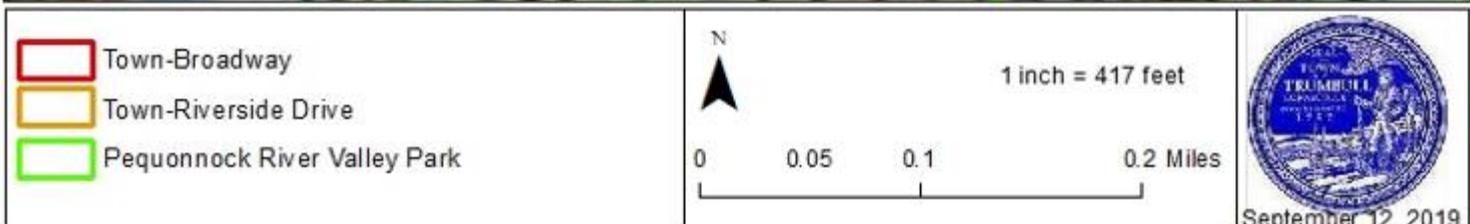
# Broadway/Riverside (Parlor Rock Park) Elevations Map



# Broadway/Riverside (Parlor Rock Park) Topographic Map



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# Broadway/Riverside (Parlor Rock Park) Wetland Soils Map



N

1 inch = 250 feet

0 0.025 0.05

0.1 Miles



September 3, 2019

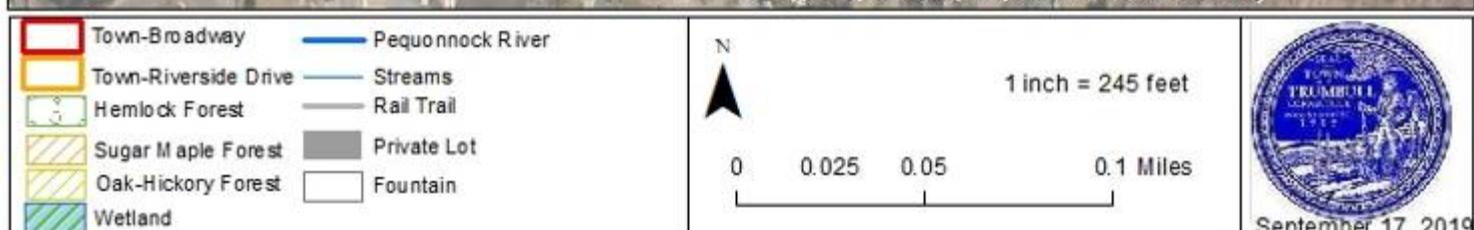
# Broadway/Riverside (Parlor Rock Park) Surrounding Open Space Map



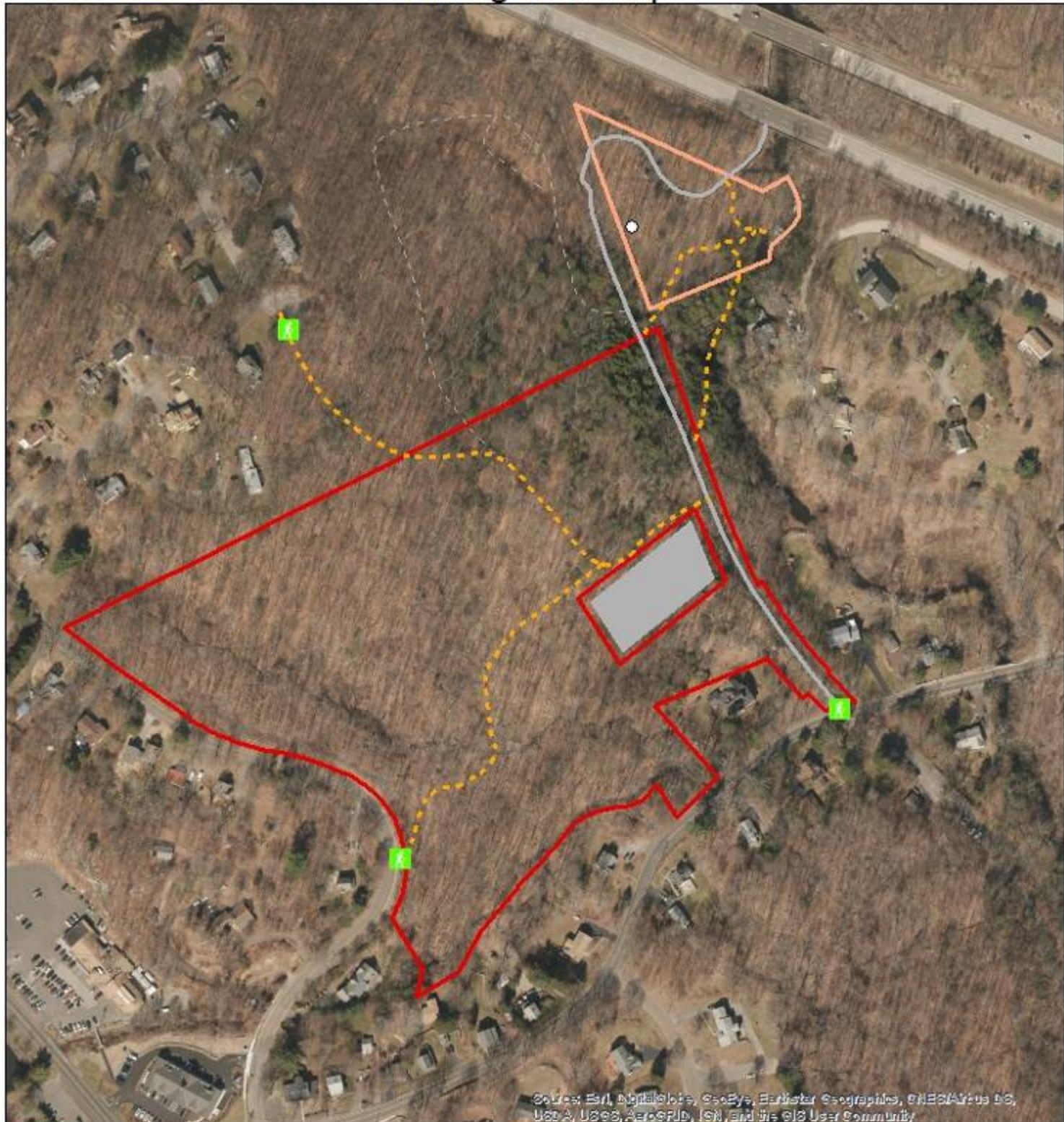
1 inch = 667 feet  
0 0.05 0.1 0.2 Miles



# Broadway/Riverside (Parlor Rock Park) Ecological Communities Map



# Broadway/Riverside (Parlor Rock Park) Hiking Trail Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<span style="border: 1px solid red; display: inline-block; width: 15px; height: 15px;"></span> Town-Broadway <span style="border: 1px solid orange; display: inline-block; width: 15px; height: 15px;"></span> Town-Riverside Drive <span style="color: green; font-size: 2em; vertical-align: middle;">X</span> Trail Entrance <span style="border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> Pequonnock River Trail	<span style="color: yellow; border: 1px dashed yellow; display: inline-block; width: 15px; height: 15px;"></span> Hiking Trails <span style="color: black; border: 1px dashed black; display: inline-block; width: 15px; height: 15px;"></span> Dirt Bike Trail <span style="background-color: grey; display: inline-block; width: 15px; height: 15px;"></span> Private Lot <span style="color: white; border: 1px solid black; display: inline-block; width: 15px; height: 15px;"></span> Fountain	 N 1 inch = 250 feet 0 0.025 0.05 0.1 Miles	 September 17, 2019
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THREATS:

- Water pollution-Approximately 80% of the River does not meet minimum standards for recreation or habitat for fish, other aquatic life, and wildlife. Total Suspended Solids exceed regulatory guidelines
- Erosion and storm water runoff on steep slopes and stream embankments
- Development of 1.1 acre privately owned parcel in center of town-owned property
- Invasive burning bush plants may spread
- Wooly adelgid hemlock disease
- Litter

RECOMMENDATIONS:

- Streambank revegetation where erosion is occurring
- Acquire/protect permanently the 1.1 acre wooded parcel that lies within the Broadway parcel
- Monitor/treat hemlock trees
- Monitor/remove invasive burning bush along Trail
- Monitor water quality
- Continue to clean up litter

# PARLOR ROCK PARK

## PLANT INVENTORY September 3, 17, 2019 Field Surveys

### **Trees:**

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carya cordiformis* (bitternut hickory)  
*Carya ovata* (shagbark hickory)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Ilex opaca* (American holly)  
*Juniperus virginiana* (red cedar)  
*Liriodendron tulipifera* (tulip tree)  
*Pinus strobus* (white pine)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus prinus* (chestnut oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Sassafras albidum* (sassafras)  
*Tsuga canadensis* (eastern hemlock)

### **Shrubs:**

*Berberis thunbergii* (Japanese barberry)  
*Chimaphila maculata* (pipsissewa, spotted/striped wintergreen)  
*Elaeagnus umbellata* (autumn olive)  
*Euonymus alatus* (winged euonymus)  
*Hamamelis virginiana* (witch hazel)  
*Rosa multiflora* (multiflora rose)  
*Rubus flagellaris* (dewberry)  
*Rubus phoenicolasius* (wineberry)  
*Rubus* spp. (blackberry)  
*Vaccinium angustifolium* (low-bush blueberry)  
*Viburnum acerifolium* (maple leaf viburnum)

### **Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Mitchella repens* (partridge berry)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

### **Herbs:**

*Acalypha rhomboidea* (three-seeded mercury)  
*Actaea pachypoda* (white baneberry)  
*Aralia nudicaulis* (sarsaparilla)  
*Artemisia vulgaris* (common mugwort)

## PARLOR ROCK PARK

Aster divaricatus (white wood aster)  
Bidens frondosa (common beggarticks)  
Caulophyllum thalictroides (blue cohosh)  
Erechtites hieracifolia (pilewort)  
Erigeron annuus (daisy fleabane)  
Eupatorium rugosum (Ageratina altissima) (white snakeroot)  
Impatiens capensis (orange jewelweed)  
Mitchella repens (partridgeberry)  
Polygonatum biflorum (true Solomon's seal)  
Polygonum persicaria (lady's thumb)  
Polygonum virginianum (Virginia knotweed/jumpseed)  
Pyrola elliptica (shinleaf)  
Sanguinaria canadensis (bloodroot)  
Solidago bicolor (white goldenrod, silverrod)  
Solidage flexicaulis (zig-zag goldenrod)

### **Sedges & Rushes:**

Carex pensylvanica (Pennsylvania sedge)  
Carex plantaginea (seersucker sedge)

### **Ferns and allies:**

Athyrium filix-femina (lady fern)  
Dennstaedtia punctilobula (hay-scented fern)  
Monotropa uniflora (Indian pipe)  
Polystichum acrostichoides (Christmas fern)  
Thelypteris noveboracensis (New York fern)

## MISCHA BROOK PARK

January 15, 2019 Field Survey

**CONSERVATION VALUES** include: Forests with some very large, 50 inch diameter trees, hiking trails, wetlands and vernal pools, riparian zones, floodplain forests, streams and seeps, stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

Mischa Brook Park is 16.6 acres in size and is located in the eastern section of Trumbull (see Location Map page 190). The Park is entirely wooded (see Satellite Photograph Map page 191). Mischa Brook and at least four tributaries dominate the Park (see Environmental Features Map page 194). Wetlands associated with the watercourses cover approximately 10 acres, or 60% of the Park.

A hiking trail runs through the northeast section. A foot-bridge over the brook is in disrepair. A sewer line with cleared land runs east-west across the southern section of the Park. The Park is surrounded by residential homes (see Surrounding Open Space Map page 196).

The two recently cleared lots along the east boundary have running water flowing through the lots and seeping under the silt fences emphasizing that the Park lies in a very low watershed that has a high water table. One home appears to be in the wetland according to the hydric soils maps, although they are not as accurate as field wetland delineations. The water level should be monitored to see if any of the fill from the two new lots is creating flooding problems for the Park.

An old foot-bridge needs repair over the Mischa Brook. This is important because it will provide access for the many homes along the western edge of the park on Booth Hill and Old Green Road, allowing them to hike to the drier eastern half of the park. This will also give residents living along the south east border access to the northern part of the Park. A



Trail sign along hiking trail.

hiking trail runs through the northeastern section of the park and should be maintained for hikers.

The Town of Trumbull also owns a 1.7 acre lot at Huntington Turnpike. This is classified as Municipal Land, Residential and could be made part of the Park, allowing another entrance to the Park along Huntington Turnpike (see Surrounding Open Space page 196). The lot probably needs board walking through wet areas.

Two private large lots lie along the Park's southern boundary. The 6-acre private parcel at the southeast corner of the Park, slated for multi-family housing, could be preserved, or, if developed, partially preserved, particularly the rear half of the lot that contains wetlands and wetland buffer. A trail could connect this area to the private horse farm located at the Park's southwestern boundary, a 5.4 acre lot that could be partially protected by putting a conservation easement on the most sensitive part of the parcel.

These improvements can make Mischa Brook a hiking destination for the many area residents who do not have walking access to any other parks nearby.

## ECOLOGICAL COMMUNITIES:

Mischa Brook Park has the following ecological communities (see Ecological Communities Map page 195 and Plant Inventory page 198):

RED MAPLE SWAMP: 13 acres

MAPLE-BEECH FOREST: 2.5 acres

OAK-TULIP FOREST: 2.0 acres

### MAPLE -BEECH FOREST

The Park's north east section is higher in elevation and drier and can be classified as a maple-beech forest with large sugar maple and beech trees (26" diameter) along with white oak, swamp white oak, red oak, tulip, yellow birch, pignut and mockernut hickories and red maples.

The understory consists of beech, elm and sugar maple saplings.



Red oaks, tulip, yellow birch, sugar maple and beech trees in higher, drier northeast section of Park.

### RED MAPLE SWAMP:

The main tributary to Mischa Brook and the wetlands surrounding it have tulip, black oak, large yellow birch (24" diameter) and red oak trees in the canopy and ironwood and black birch trees in the understory. The shrub layer consists of witch hazel, spice bush, winterberry and maple leaf viburnum shrubs along with a few invasive burning bush and barberry shrubs. The ground layer has skunk cabbage.

The tributary and the brook themselves have red maple trees and spice bush and burning bush shrubs along with a few white ash and some very large tulip (50" diameter) and red oak trees (34" diameter). A single medium sized hemlock tree grows here also.



View south of Mischa Brook, center of Park.

OAK-TULIP FOREST:

The southeastern section of the park is drier and can be classified as an oak-tulip forest with tulip trees and black and red oak trees in the canopy along with red maple and black birch trees and witch hazel in the shrub layer.



Tributary and wetlands

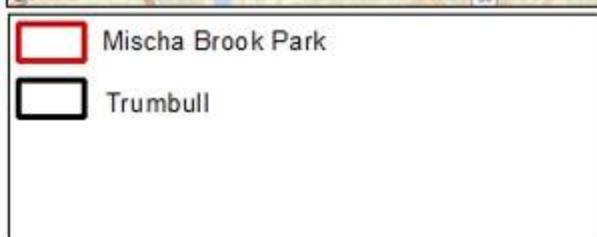
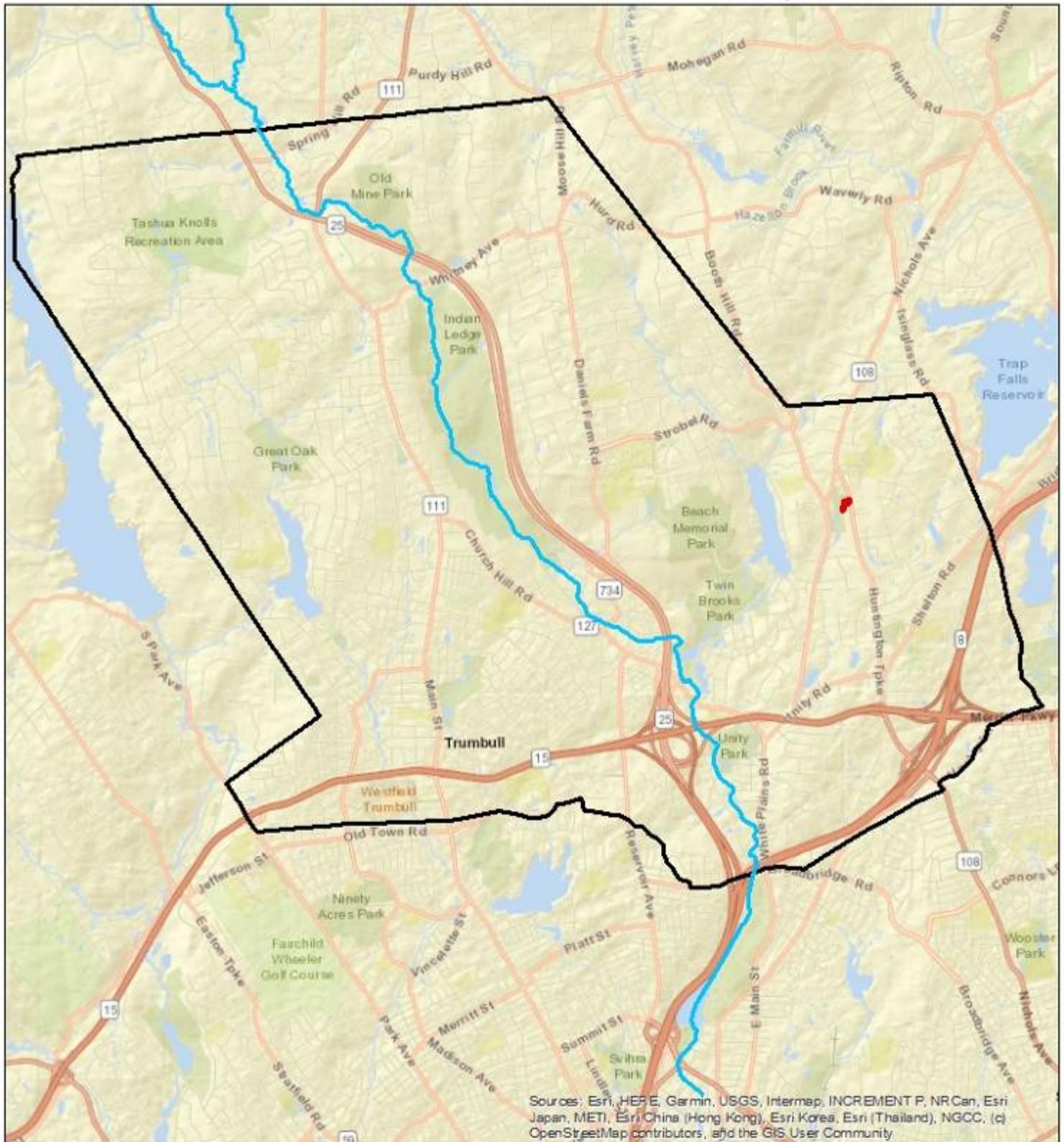


Raptor nest just south of sewer line, possible red shouldered hawk



View east along area cleared for sewer line with mugwort and phragmites.

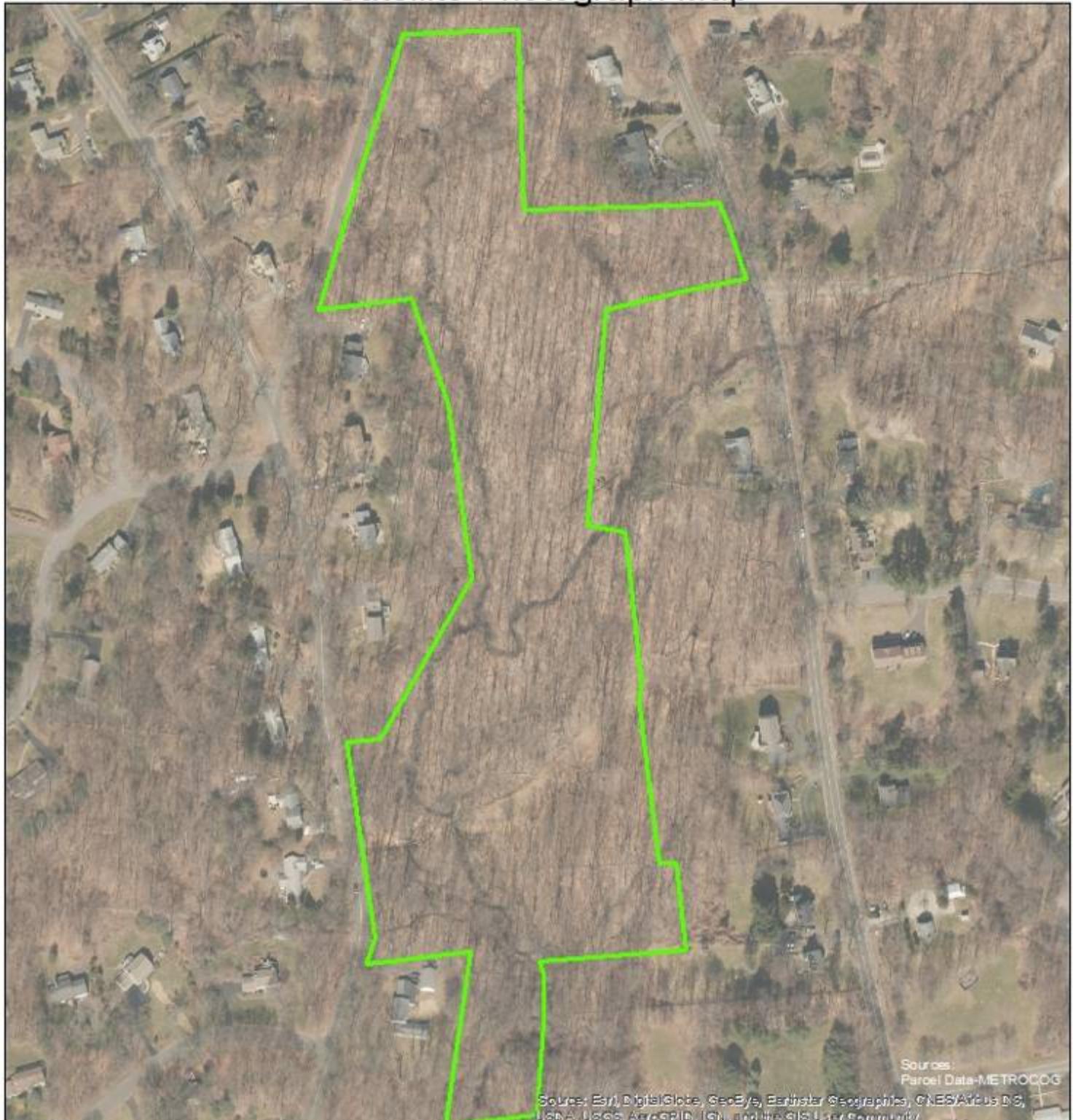
# Mischa Brook Park Location Map



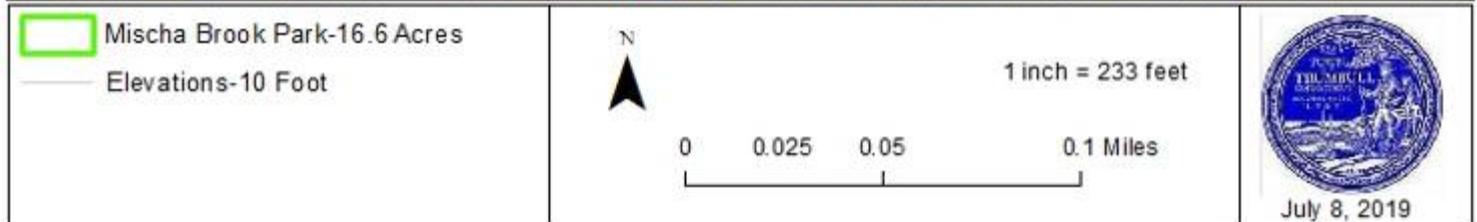
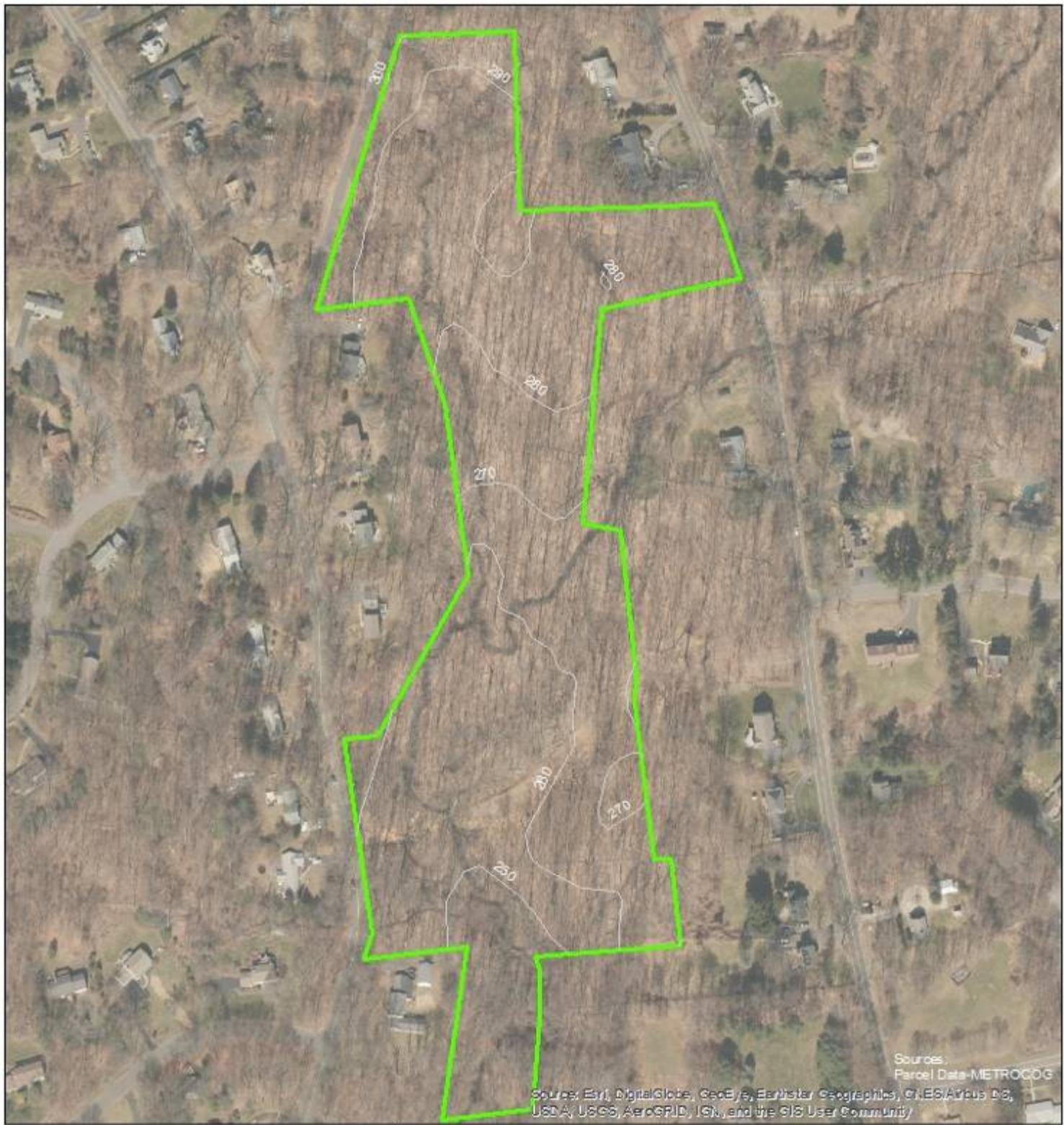
1 inch = 4,537 feet  
 0 0.5 1 2 Miles



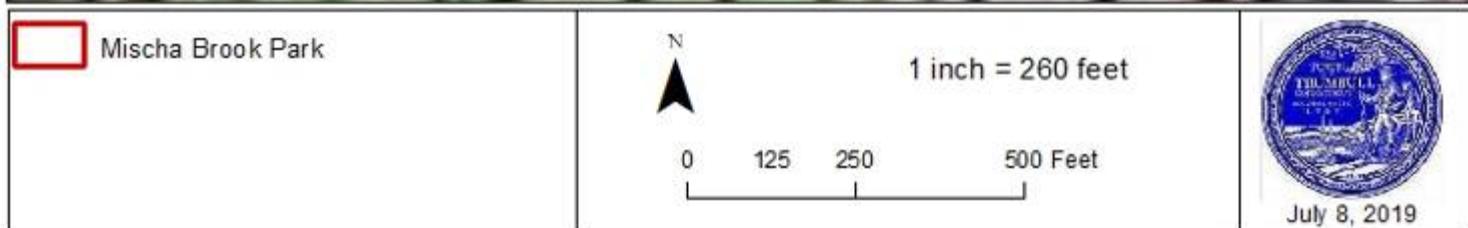
# Mischa Brook Park Satellite Photograph Map



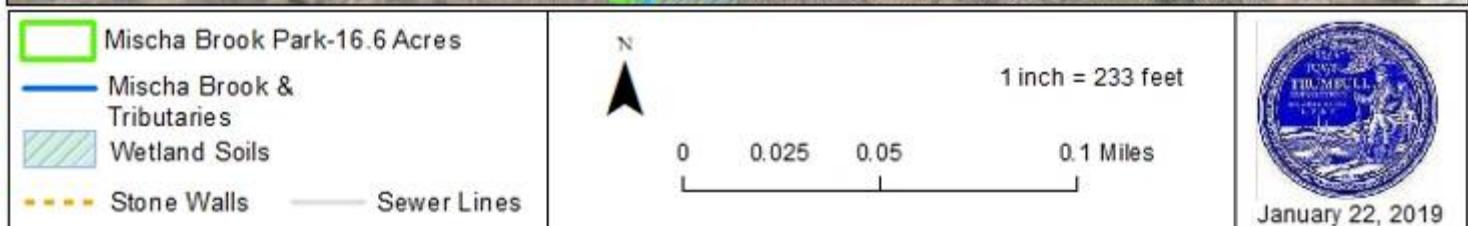
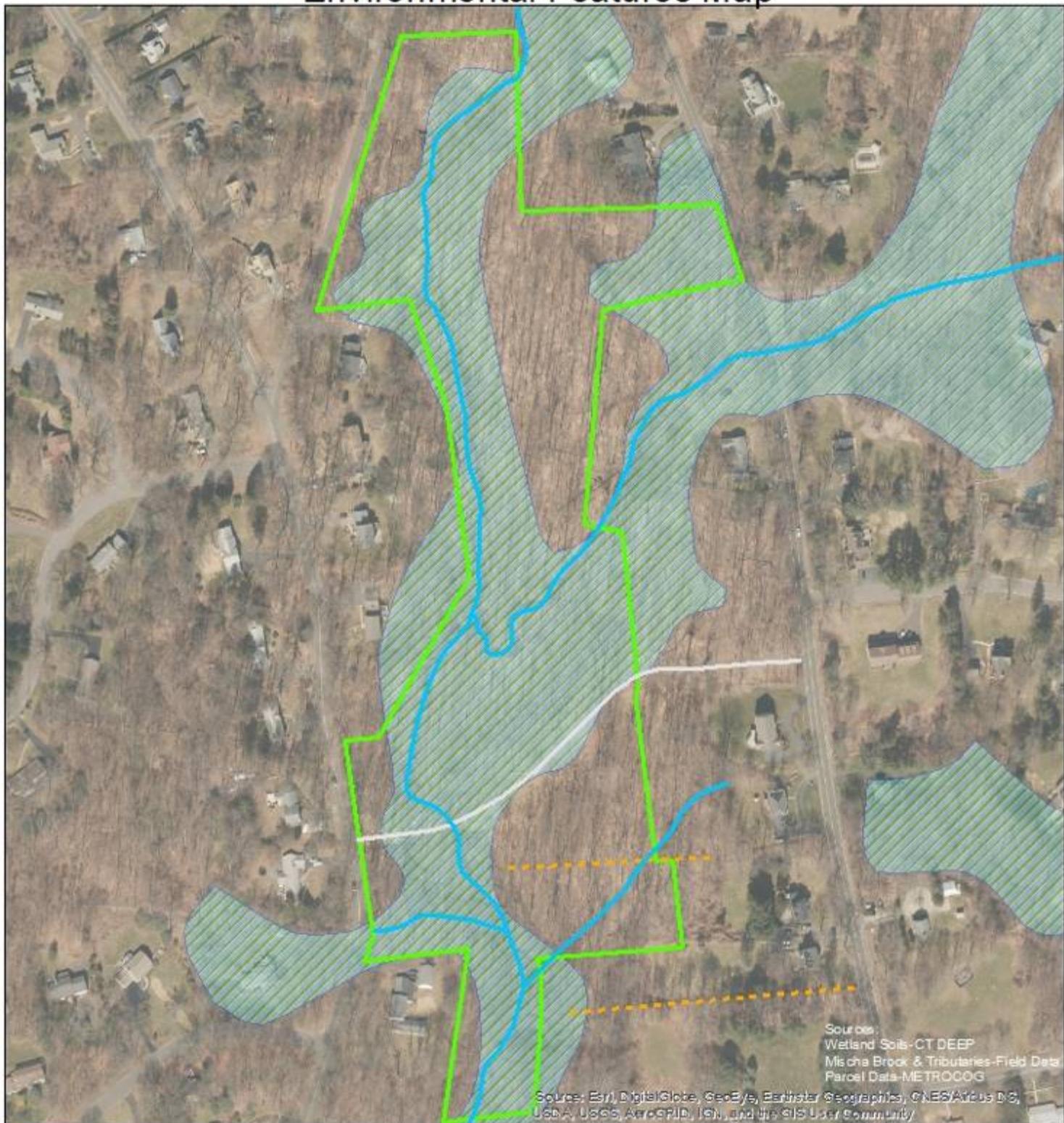
# Mischa Brook Park Elevations Map



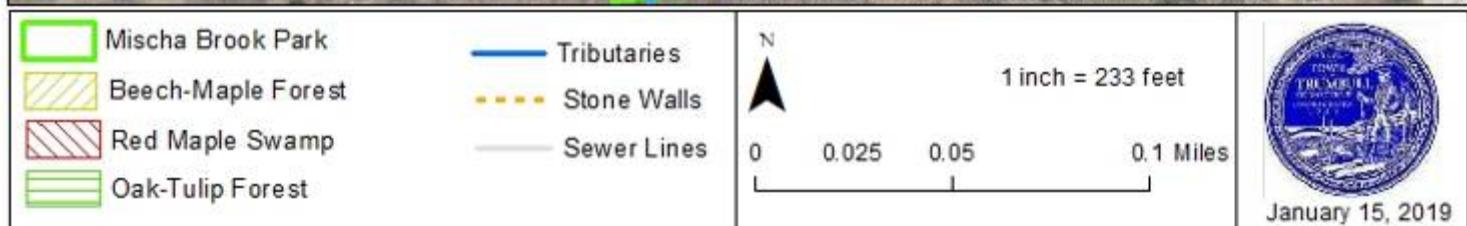
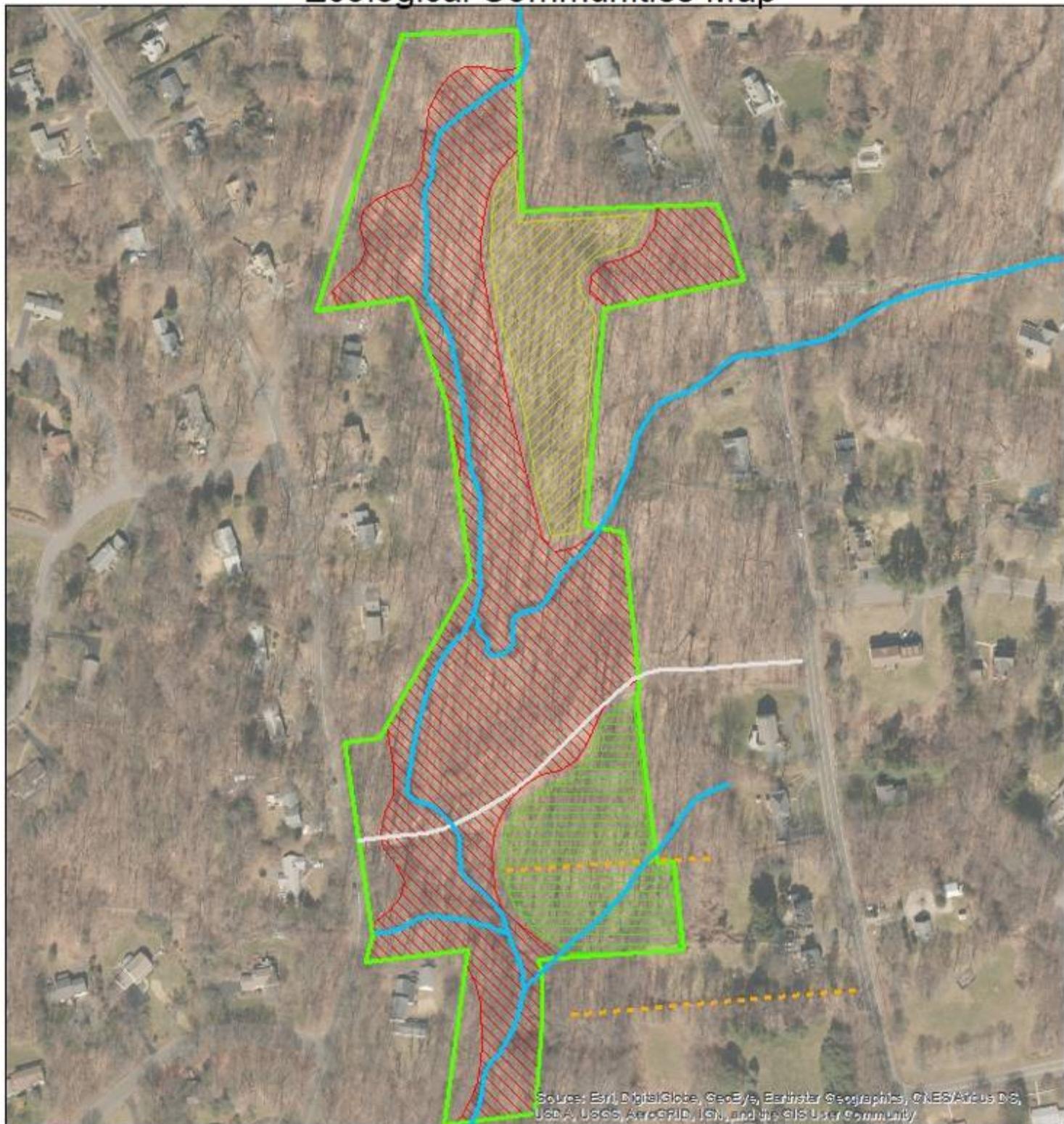
# Mischa Brook Park Topographic Map



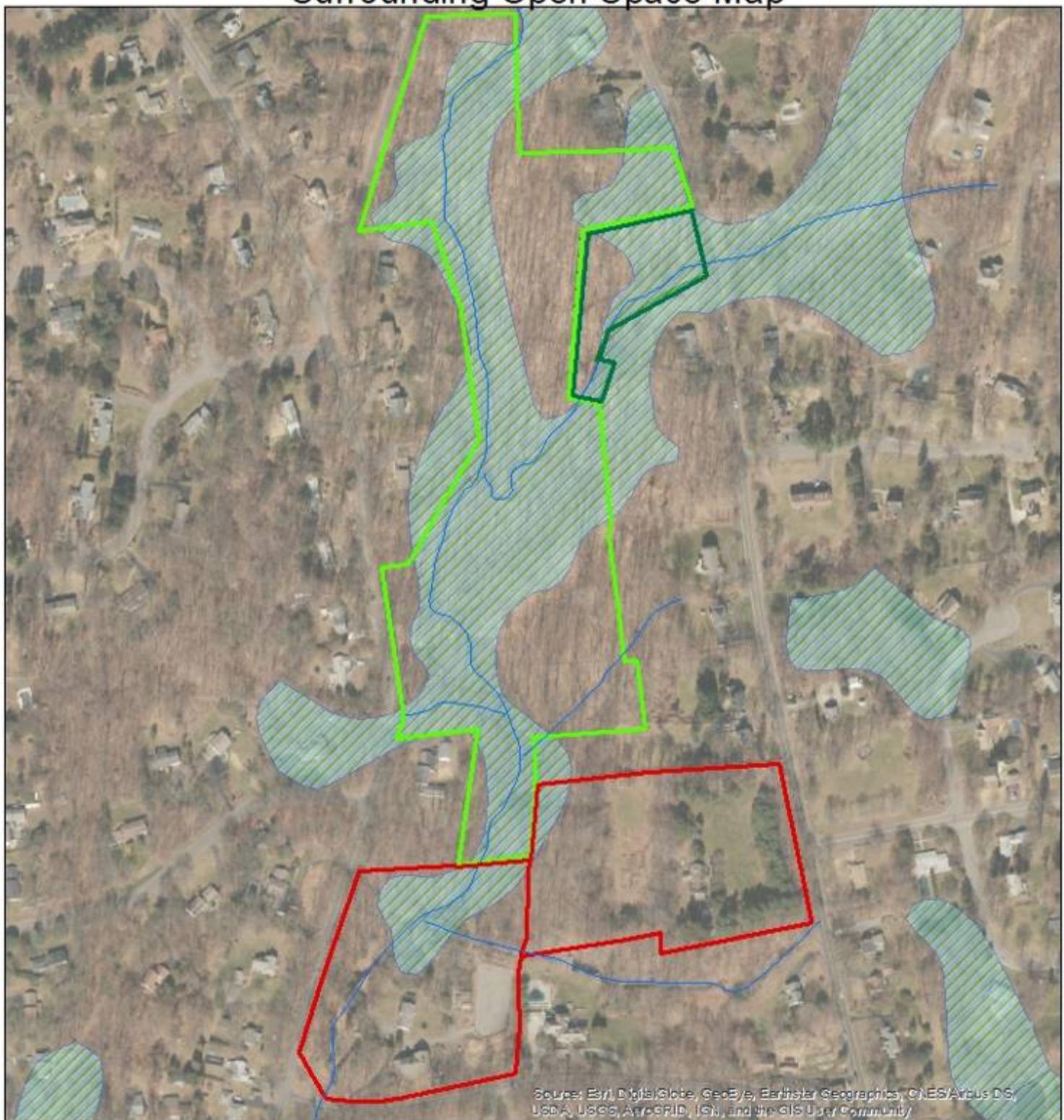
# Mischa Brook Park Environmental Features Map



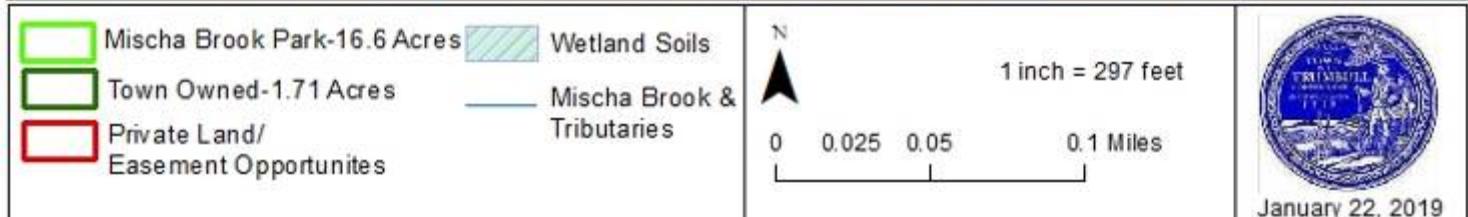
# Mischa Brook Park Ecological Communities Map



# Mischa Brook Park Surrounding Open Space Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, Aerial3D, IGN, and the GIS User Community



THREATS:

- Water pollution from stormwater runoff
- Flooding from surrounding streets and homes
- Development/clearing of large parcels along south boundary
- Lack of Land Regulation/Enforcement allowing wetland filling
- Invasive mugwort and phragmites along sewer line may spread
- Deer browse
- Litter

RECOMMENDATIONS:

- Monitor water and any flow from newly developed parcels on eastern boundary
- Protect parts of the two large lots along the Park's southern boundary with conservation easements.
- Monitor/remove invasive burning bush, mugwort and phragmites
- Trails-repair footbridge, repair signs, add sign and blazes
- Clean up any trash

## MISCHA BROOK

PLANT INVENTORY: (Surveys were done in January, 2019 and more vegetation would be identified during the growing seasons):

### **Trees:**

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carpinus caroliniana* (ironwood)  
*Carya glabra* (pignut hickory)  
*Carya ovata* (shagbark hickory)  
*Carya tomentosa* (mockernut hickory)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Liriodendron tulipifera* (tulip tree)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus bicolor* (swamp white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Tsuga canadensis* (eastern hemlock)  
*Ulmus americana* (American elm)

### **Shrubs:**

*Berberis thunbergii* (Japanese barberry)  
*Elaeagnus umbellata* (autumn olive)  
*Euonymus alatus* (winged euonymus)  
*Gaylussacia baccata* (black huckleberry)  
*Hamamelis virginiana* (witch hazel)  
*Ilex verticillata* (winterberry)  
*Lindera benzoin* (spicebush)  
*Vaccinium corymbosum* (high-bush blueberry)  
*Viburnum acerifolium* (maple leaf viburnum)

### **Herbs:**

*Artemisia vulgaris* (common mugwort)

### **Vines:**

*Parthenocissus quinquefolia* (Virginia creeper)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

### **Grasses:**

*Phragmites australis* (giant reed grass)

### **Ferns and allies:**

*Polystichum acrostichoides* (Christmas fern)

July 28, 2020 Field Survey

**CONSERVATION VALUES** include: Woods, evergreens, hiking trail, wetlands, three ponds, riparian zones, floodplain forests, streams and seeps, sections of the Pequonnock River, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

### PROPERTY DESCRIPTION:

The 43-acre Unity Park lies in the southern section of Trumbull (see Location Map page 206). Access to the northeast section of the Park is from Route 127 (White Plains Road). The Park can also be accessed from the Town Health Department Building on White Plains Road and from Bayberry Lane along the Park's southern boundary.



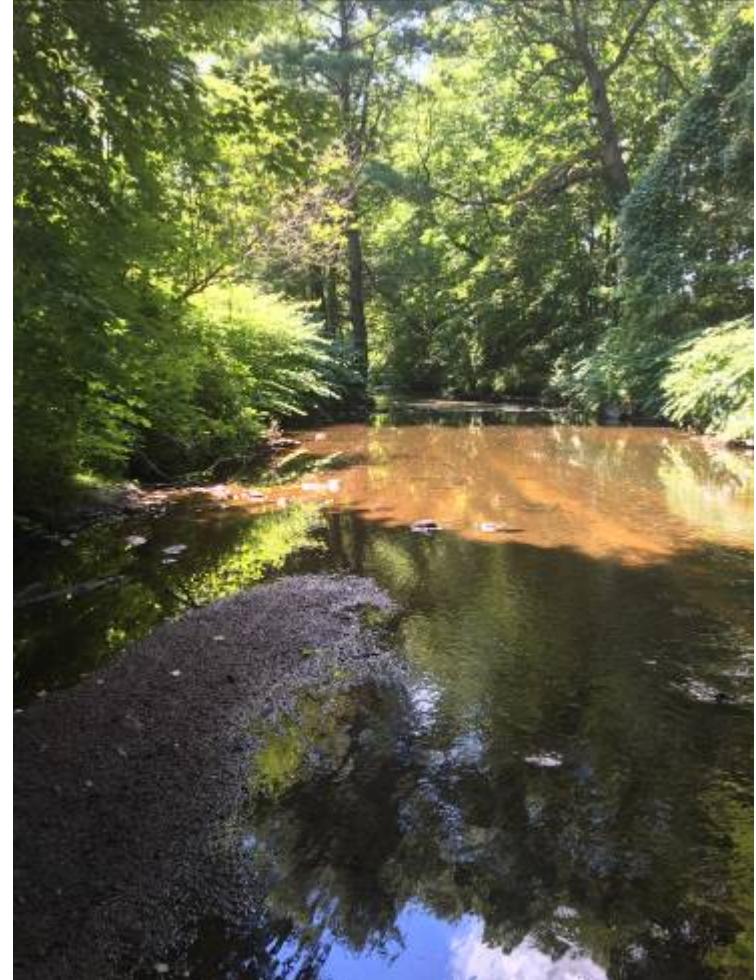
Approximately 18 acres of the Park are occupied by six ball fields, tennis and badminton courts, a pavilion and parking lots. Lawn area with occasional trees and benches occupies approximately 6 acres of the Park around the ponds. The remaining 20 acres are made up of woods, three ponds, streams and the Pequonnock River (see Satellite Photograph Map page 207). The Park is surrounded by roads--the Merritt Turnpike directly to the north, Route 25 to the west, Route 8 to the south and Route 127/White Plains Road to the east--and densely developed single-family homes (see Satellite Photograph Map page 207).

Unity Park entrance at Bayberry Lane

The Pequonnock River flows along the Park's western boundary for 0.25 miles (see Streams & Wetland Soils Map page 210). The Pequonnock River's wetlands expand just south of Unity Park and include 4 acres of inaccessible Town-owned land at Sunnyridge Parkway and a large, 24 acre parcel listed as belonging to the State of Connecticut that includes the Bridgeport Park & Recreation buildings and a pump station owned by the Town of Trumbull (see Surrounding Open Space Map page 213). A large part of the Park lies

## UNITY PARK

within the FEMA floodplain (see Floodplain Map page 211). Several locations along streams and ditches are recommended sites for stormwater improvements in the Pequonnock River Watershed Based Management Plan (see Potential Retrofit, Restoration Projects Map page 215). The sites were chosen for flood control and water quality improvement but also as demonstration projects because of the many visitors to Unity Park.



Pequonnock River looking north and south at western edge of Park  
Several openings to the riverbank could be places for benches, safety permitting

## UNITY PARK

Two streams flow into the park from the northeast and converge before flowing into one of the Park's three ponds and from there continuing south and flowing into the Pequonnock River just south of the Park. The Pequonnock River flows south another 1.2 miles into Bunnells Pond in Beardsley Park where a fish ladder allows some diadromous species such as eels and alewife (herring) to migrate around the dam and upstream and into the ponds at Beach Memorial/Twin Brook Park located 0.30 miles north of Unity Park.

Unity Park is relatively flat with elevations falling from a peak elevation of 140 feet above sea level at a hilltop at the Park's northern boundary to just 90 feet above sea level through most of the rest of the Park (see Elevations and Topographic Maps pages 208 & 209).

The Park has no formal hiking trails except for a short pathway around the northern most pond which continues to the southern pond (see Trail Map page 214). The 10 wooded acres at the Park's northern section are ideal for new hiking trails since the land is dry and wooded and easily accessible to the many people who watch Little League games played at the adjacent fields. There are several openings to the riverbank of the Pequonnock River which are very attractive and could be places for benches. Several benches are now situated around the ponds.



Pine-oak hilltop in north end of Park  
could feature a hiking trail

## UNITY PARK

### ENVIRONMENTAL COMMUNITIES:

Approximately 20 acres of the Park's 44 acres are wooded or watercourses. Of the 15 acres that are wooded, 10 acres in the higher, drier section of the Park can be classified as Oak-Hickory woods while another 5 acres of wooded wetlands can be classified as a Red Maple Swamp (see Ecological Communities Map page 212). These 20 acres of woods and wooded wetlands and watercourses, surrounded by dense residential development, roads and highways, provide some of the only refuge in the area for insects, amphibians and reptiles, small mammals, nesting and migrating birds and other wildlife.

Unity Park has the following Ecological Communities (see Ecological Communities Map page 212 and Plant Inventory page 217):

OAK-HICKORY FOREST: 10 acres

LAWN: 6 acres

RED MAPLE SWAMP: 5 acres

RIVER, STREAMS PONDS: 5 acres

### OAK-HICKORY FOREST: 10 acres:

The higher, drier area in the northern part of the Park is dominated by oak trees--including red and black oaks--and mockernut hickories. Understory trees include black birch, black cherry, sassafras and--unusual for the area--many white pine saplings. A few red cedar trees remain in the understory, a sign that this area was open field in the past since red cedar trees require full sunlight. Shrubs include low bush blueberry while wintergreen, shinleaf, Canada mayflower, Pennsylvania sedge and hay scented fern grow in the ground layer. This attractive hilltop would be a convenient place for a hiking trail for the many visitors to the Park's adjacent ball fields.

### RED MAPLE SWAMP: 5 acres

Wooded wetlands occupy approximately 5 of the Park's 20 wooded acres and can be classified as a Red Maple Swamp community. Dominant trees include red maple, tulip, ash, shagbark hickory, black birch and a few cottonwood trees. Medium to large white pines, planted in the past, grow along the Pequonnock River. Understory trees in these wetlands

include sassafras, black cherry and elm trees. Silky dogwood, gray dogwood, arrowwood viburnum, spicebush and sweet pepperbush (clethra) are common shrubs, with invasive Japanese knotweed and multi-flora rose along the sunnier edges of the woods. Ground layer plants include sensitive fern, Solomon's seal and grape vines.

The Park's wetlands provide important ecological functions including removing pollutants and sediments and controlling flooding--especially important as a large part of the Park lies within the FEMA floodplain (see Floodplain Map page 211). Flooding risk may increase as climate change increases the frequency and severity of rain events and development increases the amount of impervious surfaces. The Park's wetlands, streams and ponds also provide habitats for insects including pollinators, reptiles and amphibians, birds and other wildlife as well as scenic beauty and recreation to visitors.

#### RIVER, STREAMS PONDS: 5 acres

As mentioned above, the Pequonnock River flows along the Park's western boundary for 0.25 miles (see Streams & Wetland Soils Map page 210).

Two streams flow into the Park from the northeast and converge before flowing into the Pequonnock River just south of the Park. The Pequonnock River riverbank is completely vegetated with red maple and red oaks which help absorb and filter stormwater and other pollutants before entering the river. The streams are lined by lawn and mostly dry up in summer months. The three ponds are surrounded by vegetation in most spots which helps control pollution, shade the water keeping it cool and providing wildlife habitat. Plants include a few willow shrubs, cattails, small amounts of invasive purple loosestrife, jewelweed, pickerelweed (in bloom in July) arrowleaf tear thumb, water pepper, stinging nettles, bur sedge with spatterdock (water lilies) and arrow arum growing in the center of the ponds. Attractive boneset and blue vervain--both native wildflowers--were also in bloom in July. Many birds were seen at these ponds including solitary sandpipers, great egrets and barn and tree swallows--a testament to the value of these ponds for wildlife. Several benches at the ponds provide attractive resting places for visitors.

## UNITY PARK



Pond with egret at south end of Park



Pond at west side of Park

## UNITY PARK

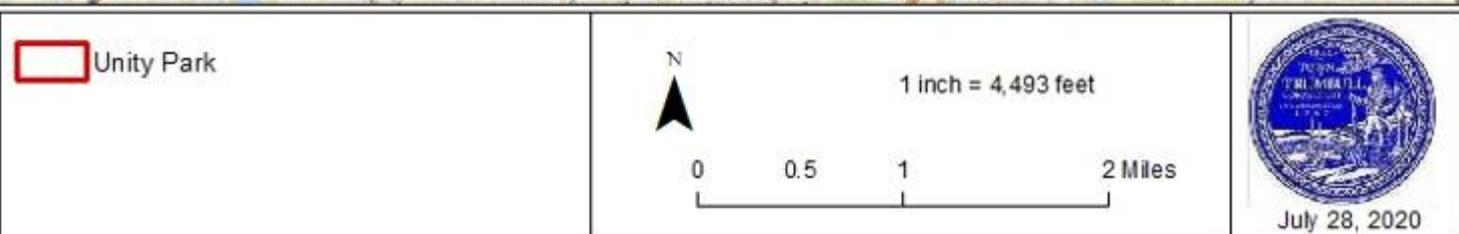
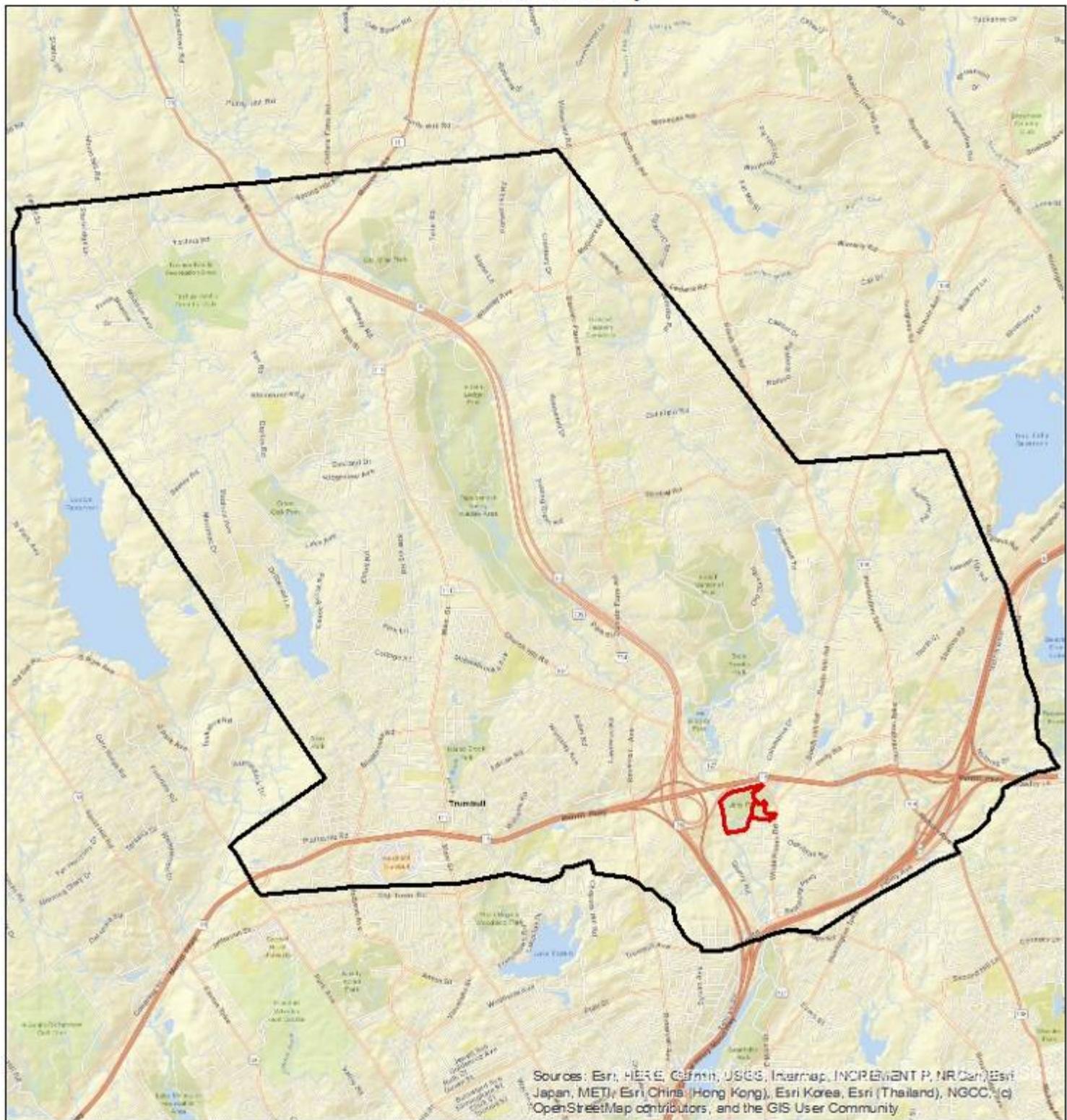


Pond at southeast side of Park

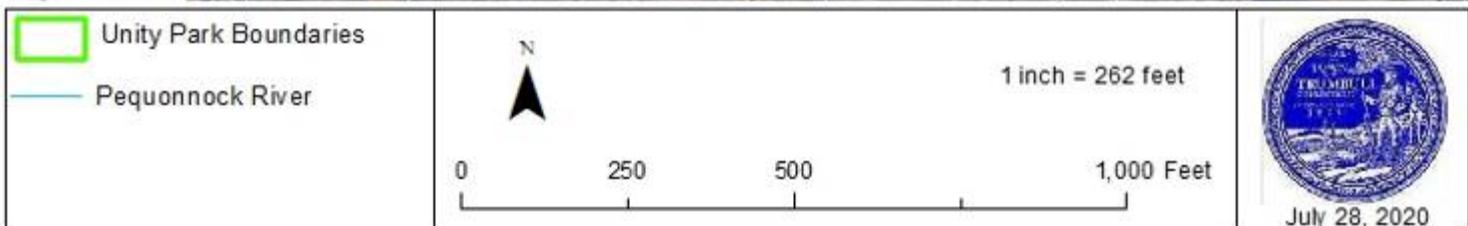
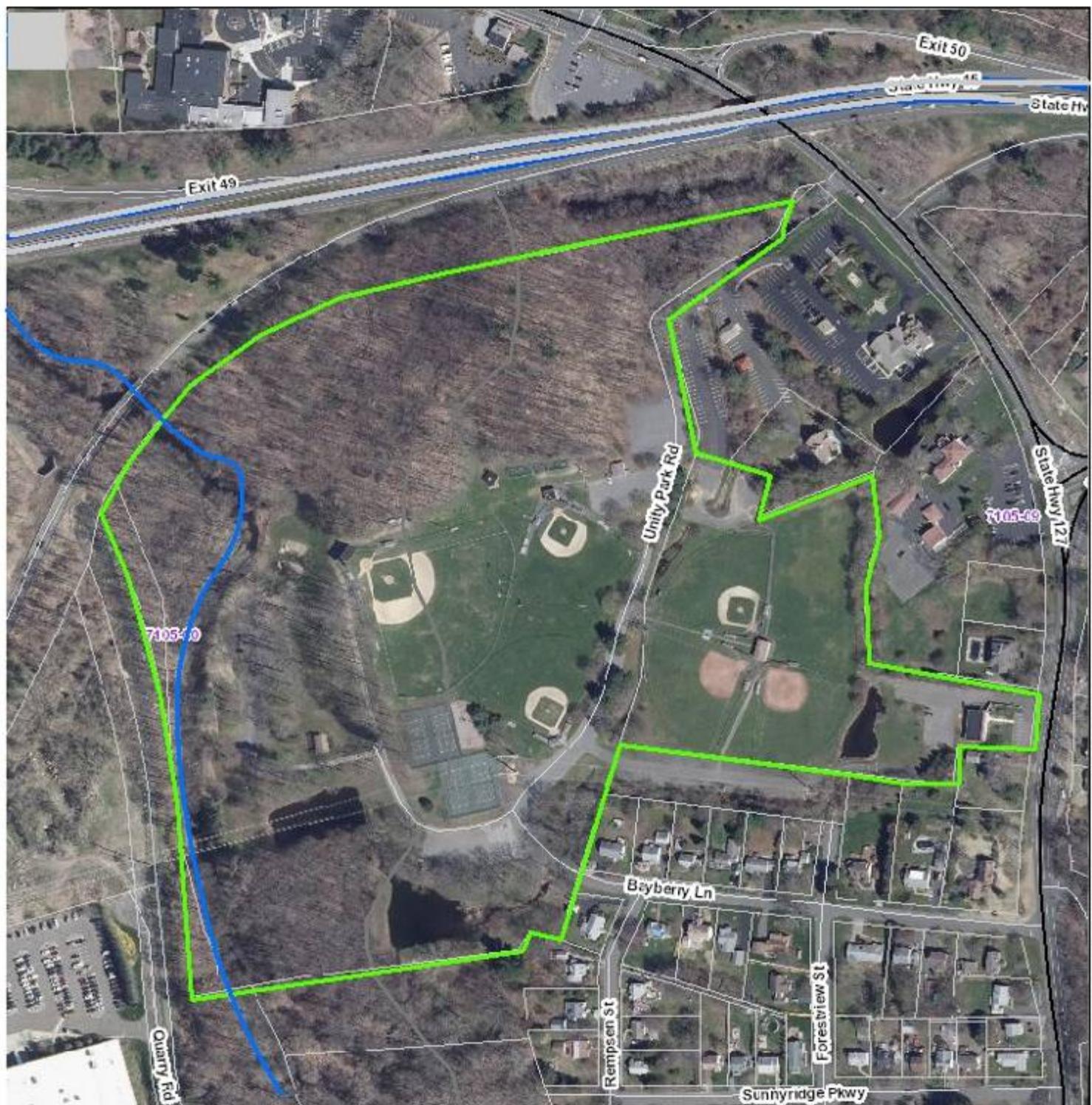


Native boneset and blue vervain along pond shoreline

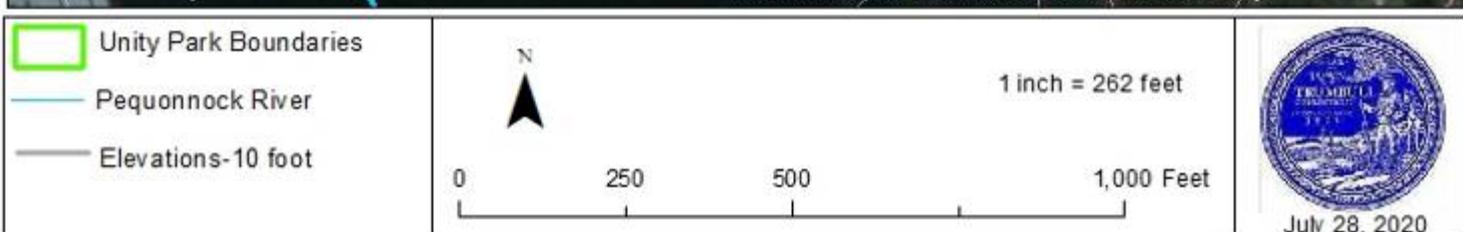
# Unity Park Location Map



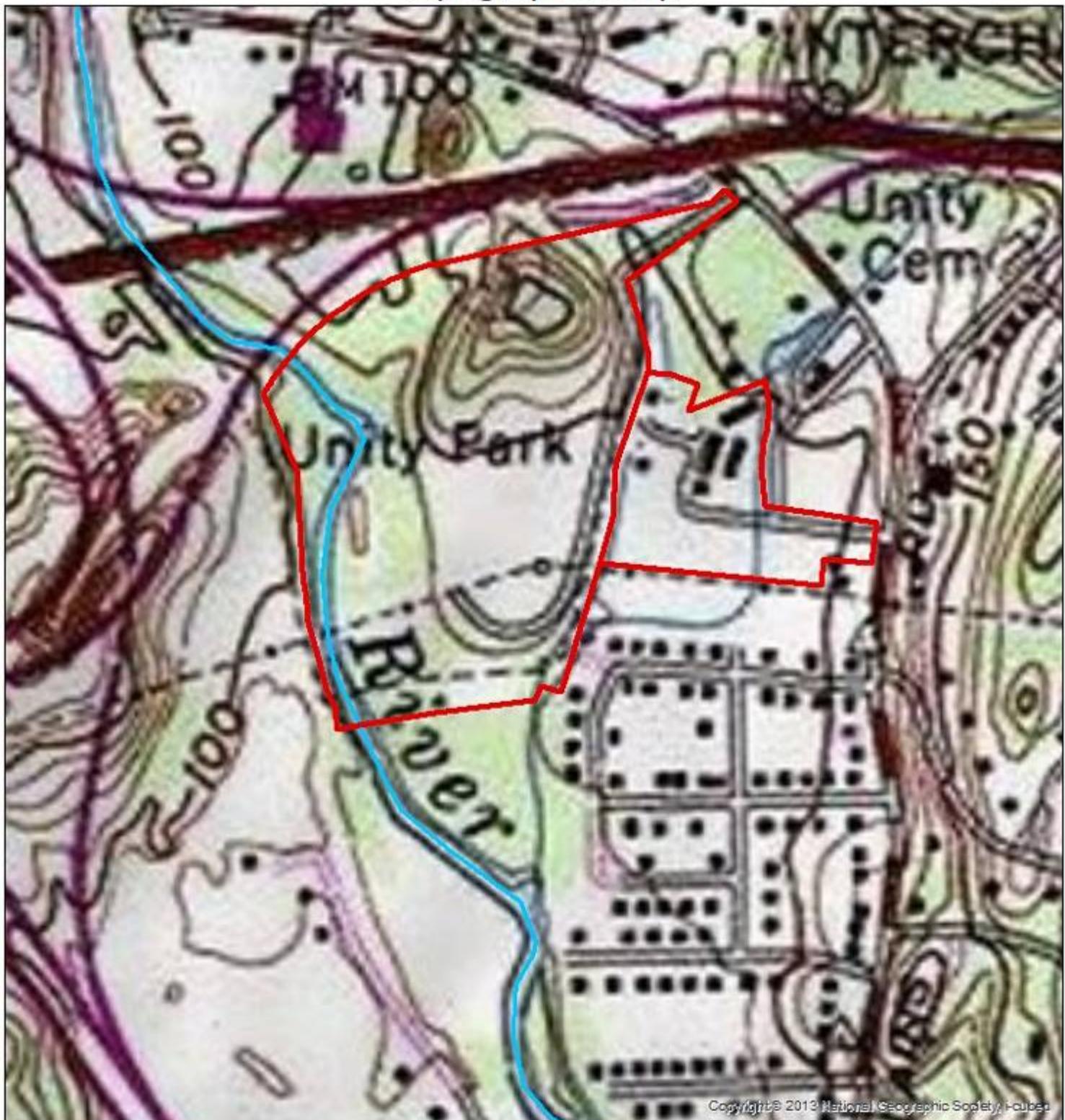
# Unity Park Satellite Photograph Map



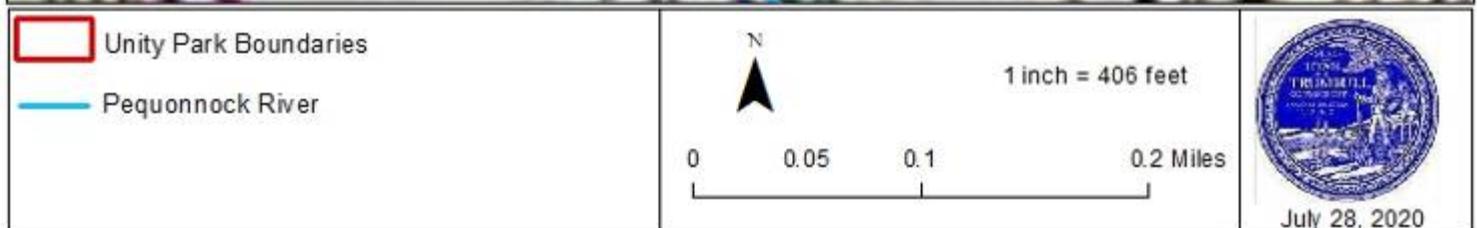
# Unity Park Elevations Map



# Unity Park Topographic Map



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# Unity Park Streams & Wetland Soils Map



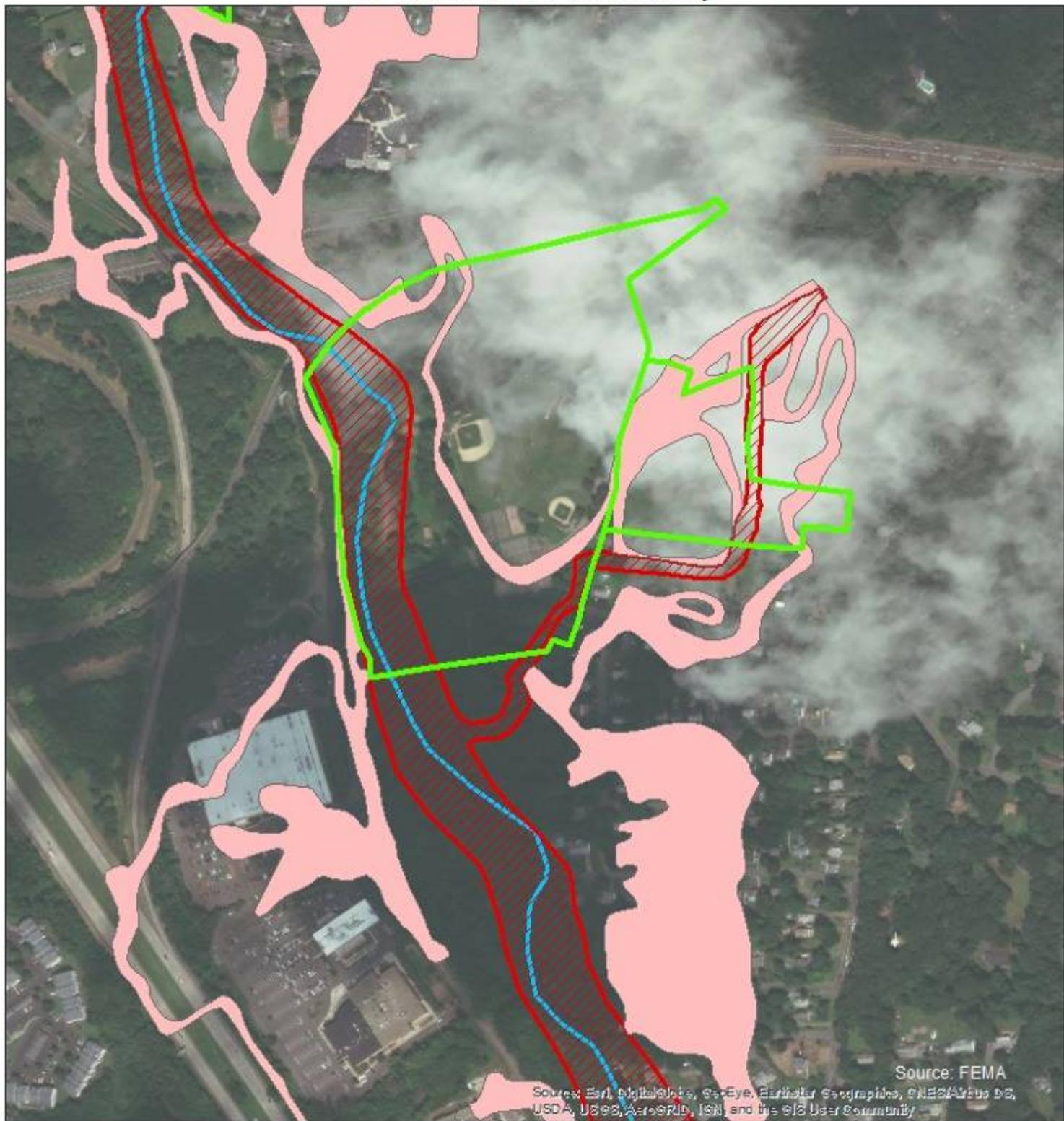
1 inch = 262 feet

0 125 250 500 Feet



July 28, 2020

# Unity Park FEMA Flood Risk Map



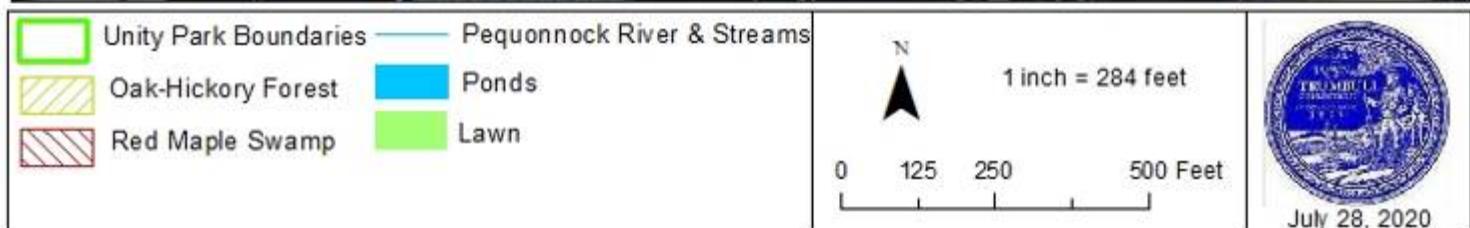
Unity Park Boundaries
Pequonnock_River
FEMA Flood Plain
0.2% Chance of Flood



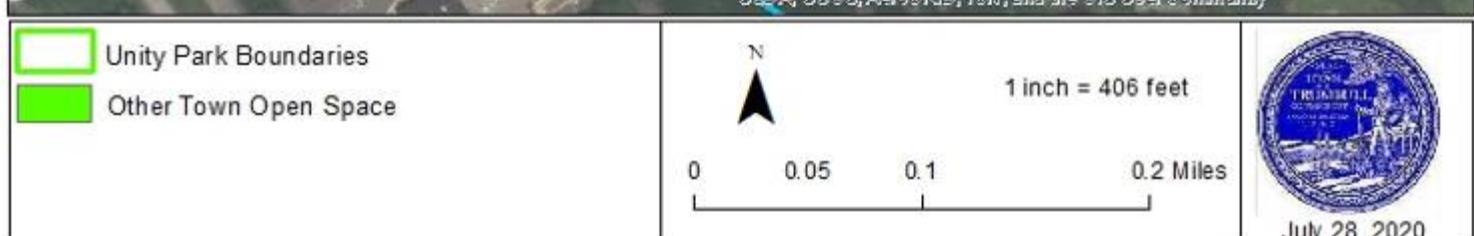
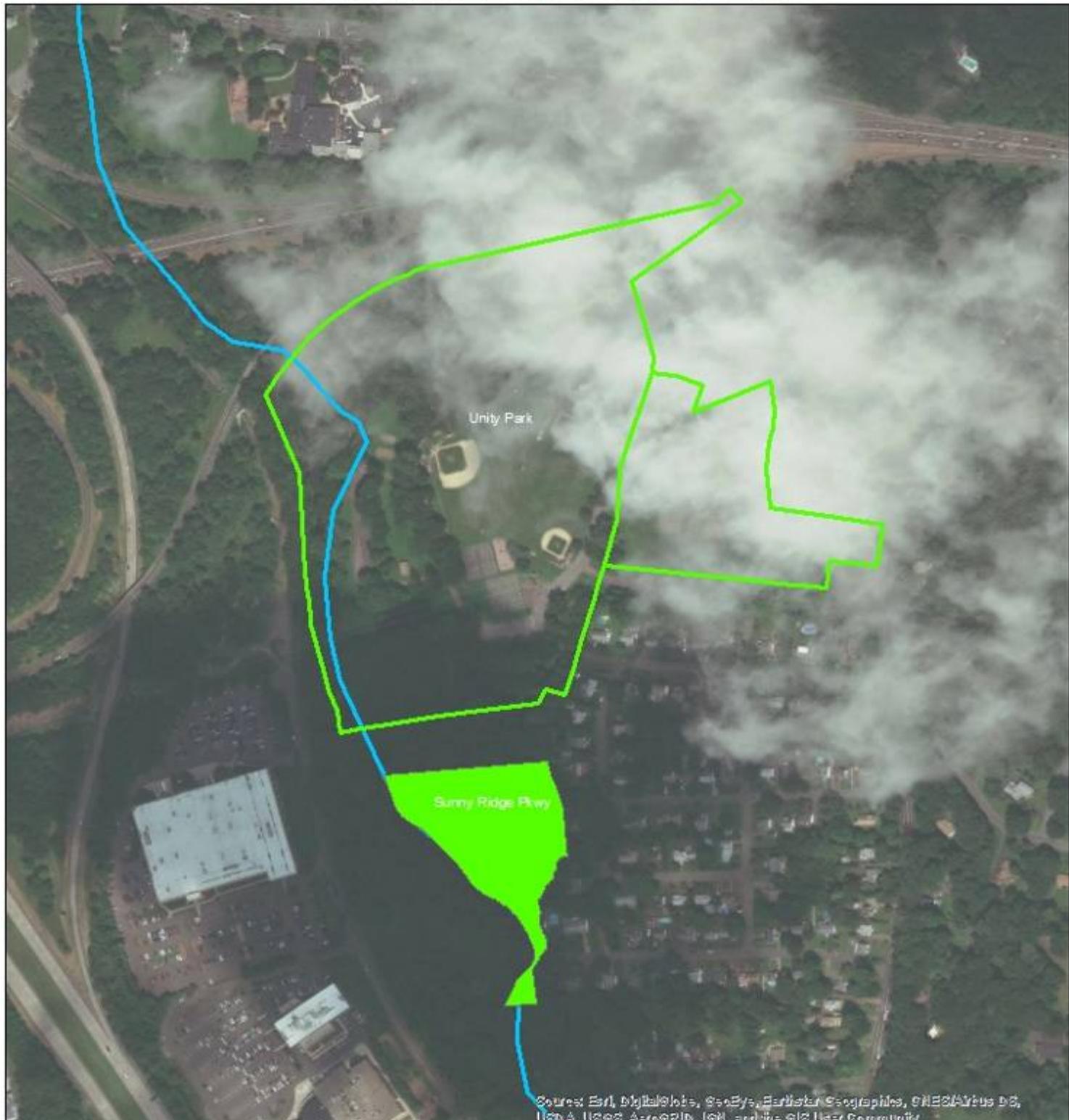
1 inch = 457 feet  
0 0.05 0.1 0.2 Miles



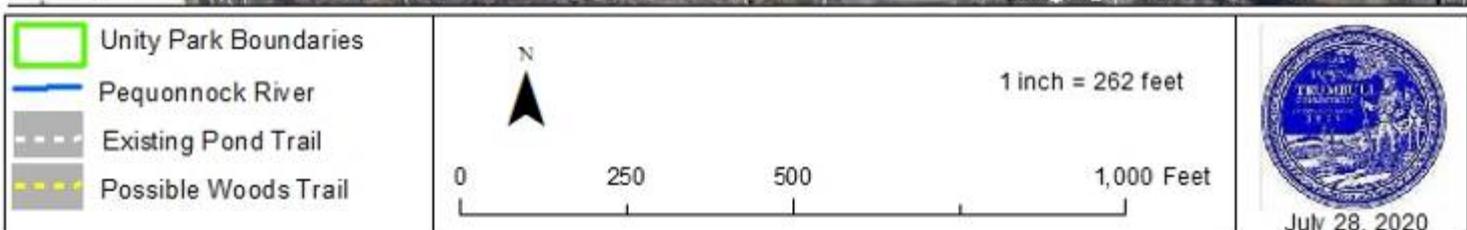
# Unity Park Ecological Communities Map



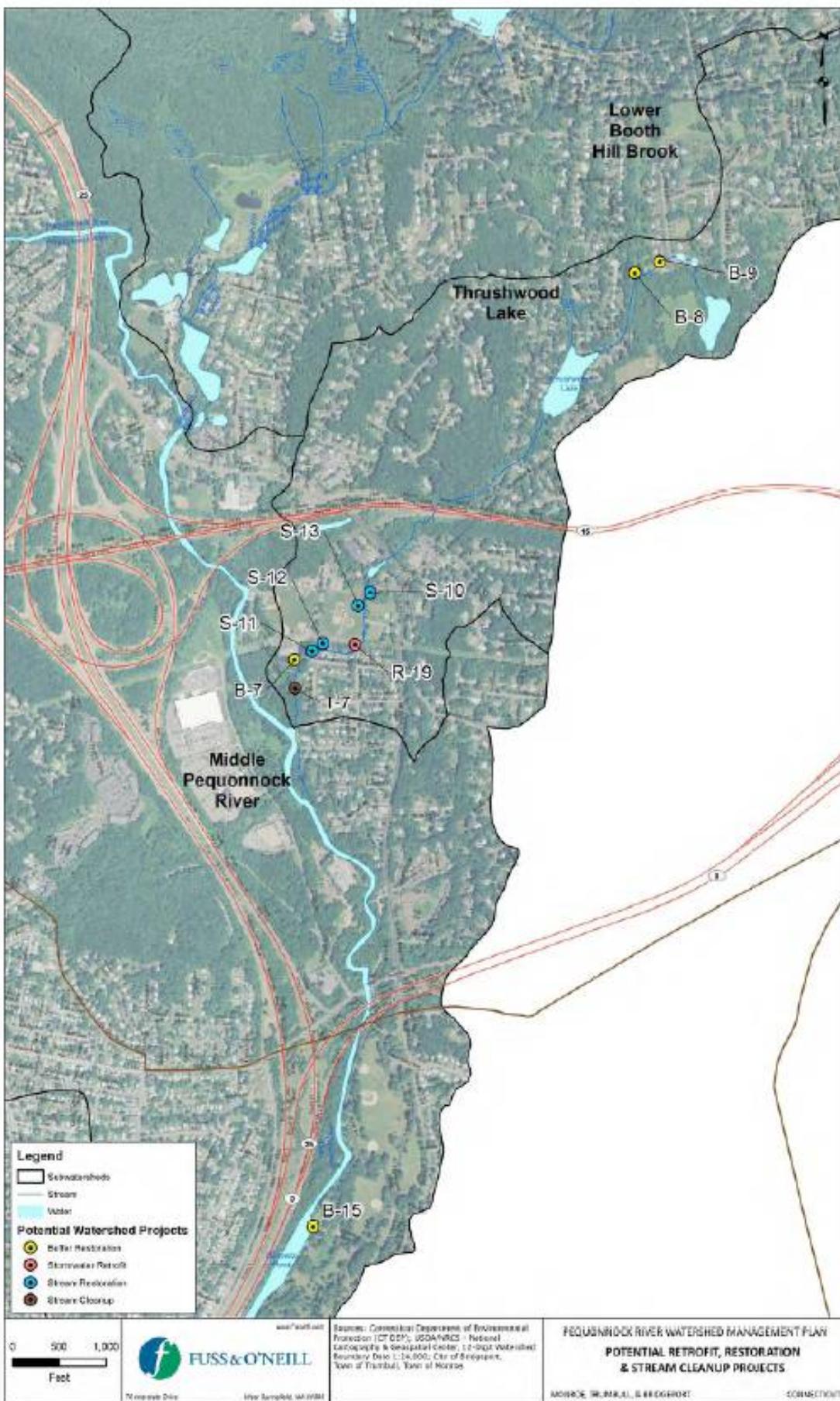
# Unity Park Surrounding Open Space Map



# Unity Park Trails Map



# Potential Retrofit, Restoration Projects Map



### THREATS:

- Water pollution-approximately 80% of the Pequonnock River does not meet minimum standards for recreation or habitat for fish, other aquatic life, and wildlife. Total Suspended Solids exceed regulatory guidelines
- Flooding
- Clearing around ponds and River
- Invasive Japanese knotweed along River may spread
- Deer browse
- Litter-Park is well maintained now and litter-free
- Climate change increasing flooding

### RECOMMENDATIONS:

- Monitor water quality
- Continue to limit fertilizer and pesticide use per Unity Park management plan
- Streambank restoration by planting native plants around ponds
- Stormwater improvements as recommended in Pequonnock River Watershed Based Plan
- Monitor/remove invasive Japanese knotweed if spreading
- Trails-create trail along northern portion of Park, add blazes and signage to this and to trail along ponds at south section of Park
- Continue to clean up trash
- Add benches along Pequonnock River, safety permitting

## PLANT INVENTORY July 28, 2020 Field Survey

**Trees:**

Acer rubrum (red maple)  
Acer platanoides (Norway maple)  
Betula lenta (black birch)  
Carpinus caroliniana (ironwood)  
Carya cordiformis (bitternut hickory)  
Carya ovata (shagbark hickory)  
Carya tomentosa (mockernut hickory)  
Fraxinus americana (white ash)  
Juniperus virginiana (red cedar)  
Liriodendron tulipifera (tulip tree)  
Morus alba (white mulberry)  
Pinus strobus (white pine)  
Platanus occidentalis (American sycamore)  
Populus deltoids (cottonwood)  
Prunus serotina (black cherry)  
Quercus rubra (red oak)  
Quercus velutina (black oak)  
Salix spp. (willow)  
Sassafras albidum (sassafras)  
Ulmus americana (American elm)

**Shrubs:**

Clethra alnifolia (pepperbush)  
Cornus amomum (silky dogwood)  
Cornus racemosa (gray stemmed dogwood)  
Lindera benzoin (spicebush)  
Rosa multiflora (multiflora rose)  
Viburnum dentatum (arrowwood viburnum)  
Vaccinium angustifolium (low-bush blueberry)

**Vines:**

Parthenocissus quinquefolia (Virginia creeper)  
Smilax rotundifolia (greenbrier)  
Toxicodendron radicans (poison ivy)  
Vitis sp. (grape)

**Herbs:**

Apocynum androsaemifolium (dogbane, Indian hemp)  
Arisaema triphyllum (Jack-in-the-pulpit)  
Artemisia vulgaris (common mugwort)  
Aster divaricatus (white wood aster)  
Chimaphila maculata (spotted wintergreen)  
Daucus carota (Queen Anne's lace)  
Eupatorium perfoliatum (boneset)  
Fallopia japonica (Japanese knotweed)  
Impatiens capensis (orange jewelweed)

## UNITY PARK

*Lythrum salicaria* (purple loosestrife)  
*Maianthemum canadense* (Canada mayflower)  
*Mitchella repens* (partridgeberry)  
*Nuphar advena* (spatterdock/yellow pond-lily)  
*Peltandra virginica* (arrow arum)  
*Persicaria sagittata* (*Persicaria arifolia*) (halberd-leaved smartweed)  
*Polygonatum biflorum* (true Solomon's seal)  
*Polygonum hydropiperoides* (mild water pepper)  
*Pontederia cordata* (pickerelweed)  
*Pyrola elliptica* (shinleaf)  
*Scirpus* spp. (bulrush)  
*Sparganium* spp. (bur-reed)  
*Typha latifolia* (common cattail)  
*Urtica dioica* (stinging nettle)  
*Verbena hastata* (blue vervain)

### **Ferns and allies:**

*Dennstaedtia punctilobula* (hay-scented fern)  
*Onoclea sensibilis* (sensitive fern)  
*Osmunda cinnamomea* (cinnamon fern)  
*Osmunda regalis* (royal fern)

## MIDDLEBROOKS PARK

July 23, 2020 Field Survey

**CONSERVATION VALUES** include: Woods with large trees some 40 inches in diameter, hiking/educational trail, wetlands, riparian zones, stream and seeps, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study by students at nearby Middlebrook School and Middlebrook Elementary School and scenic vistas.

### PROPERTY DESCRIPTION:

The Middlebrook School Campus is part of a 42 acre town complex that includes the Trumbull Highway Department, Park's Department, Emergency Medical Services and Animal Shelter as well as the Middlebrook School and the Middlebrook Elementary School. The complex is located near the center of Trumbull between Church Hill Road and Middlebrook Avenue (see Location Map page 221). 15 acres of the campus are wooded (see Satellite Photograph Map page 222). Although it is only 800 feet from Island Brook Park located to the south, the two woods are separated by dozens of houses along Canterbury Lane and White Birch Drive (see Surrounding Open Space Map page 228). The Middlebrook woods are surrounded by densely developed single-family homes to the west, east and south and the campus buildings to the north (see Satellite Photograph Map page 222).

An unnamed stream flows from culverts through the center of the woods before flowing into another stream that, through a series of culverts, flows northeast into the Pequonnock River 0.5 miles away (see Streams & Wetland Soils Map page 225).

The Middlebrook campus woods slope from 350 feet above sea level at the western boundary to a low point of 290 at the eastern boundary and stream (see Elevation and Topographic Maps pages 223 & 224).



Stream with ferns and skunk cabbage

A 900 foot long hiking trailloop runs from the south edge of the schools' playground to the stream and back. It is marked by several numbered posts that most likely relate to descriptions of the environmental features along the trail. The trail can be an excellent educational experience for both schools as long as the trail is maintained and the numbered posts are identified (see Trail Map page 227).



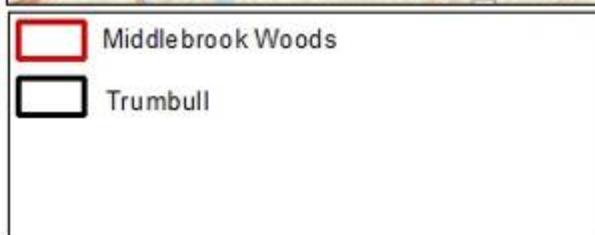
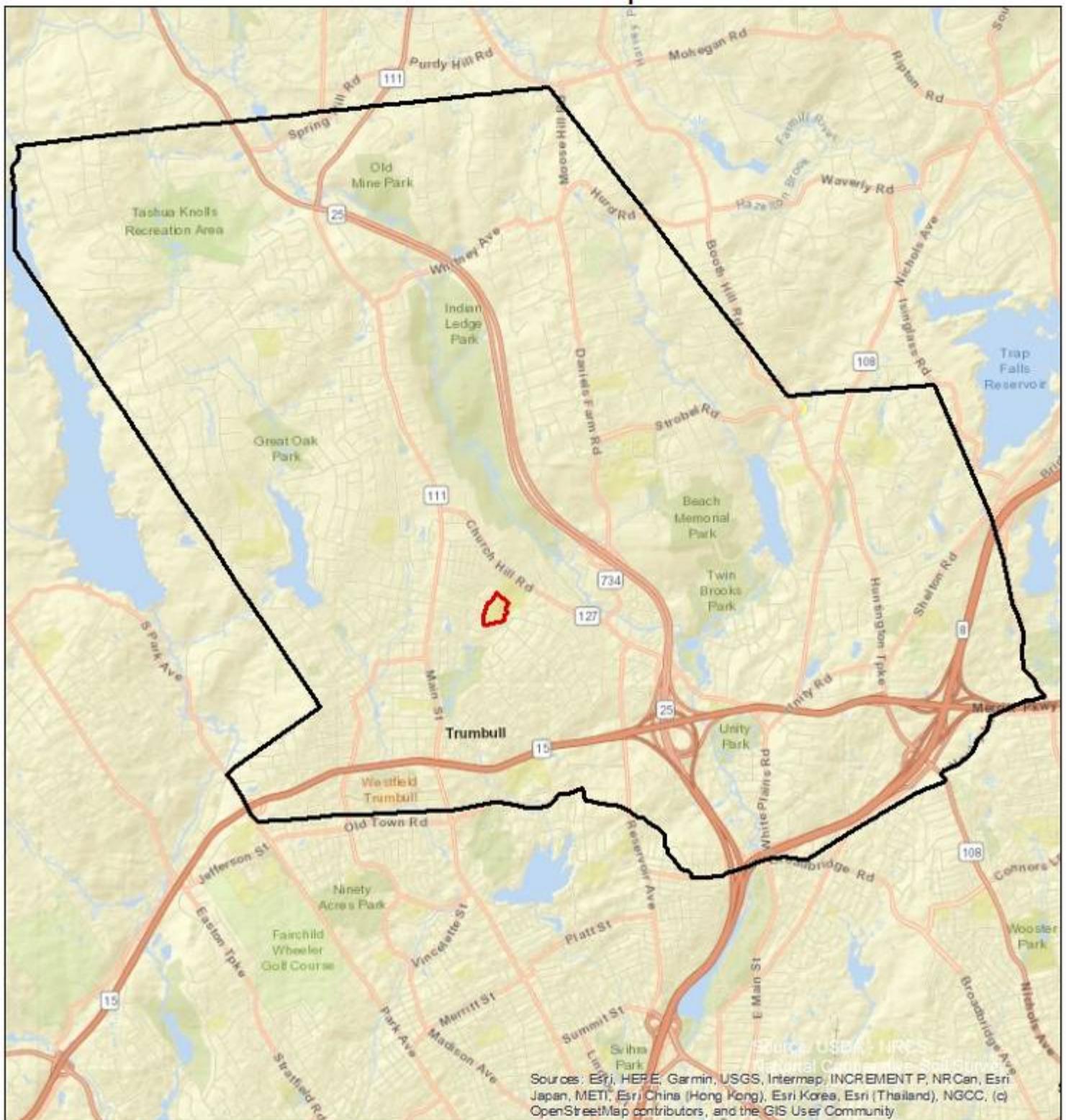
Educational trail markers along hiking trail and stream

### ENVIRONMENTAL COMMUNITIES:

Approximately 10 acres of the Middlebrook campus woods surrounding the stream and to the west can be classified as a Red Maple Swamp community (see Ecological Communities Map page 226). The canopy consists of red maple, sugar maple and tulip trees with yellow birch in the understory. Spicebush is the most common shrub. Skunk cabbage grows in the ground layer along with New York and cinnamon ferns.

The remaining 5 acres of the woods in the higher, drier eastern half is an Oak-Hickory forest. Dominant trees include red and white oaks and black birch. Some of the oaks are quite large at 40 inches in diameter. The understory is made up of beech and sassafras saplings along with a rare American chestnut sapling. Maple-leaf viburnum, witch hazel and low bush blueberries grow in the shrub layer. Ground layer plants include New York, lady and spinulose wood fern, Canada mayflower and greenbriar.

# Middlebrook School Campus Location Map



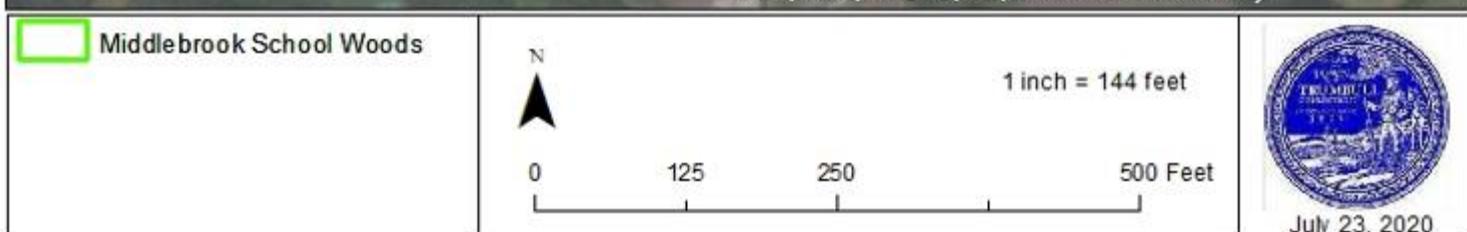
0 0.5 1 2 Miles  
1 inch = 4,537 feet



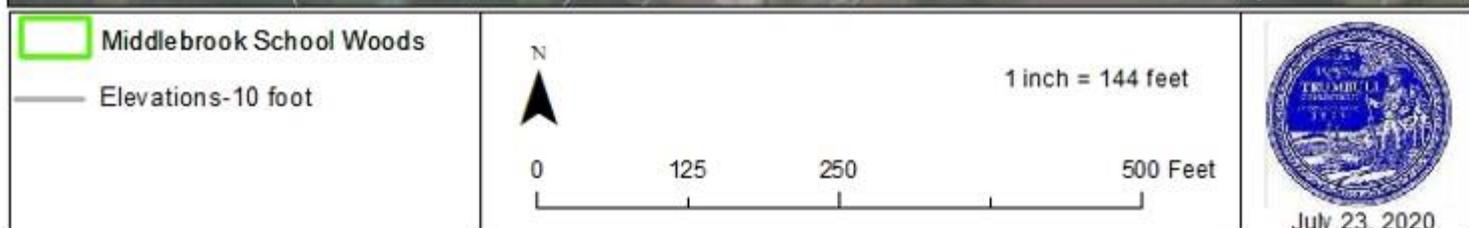
# Middlebrook School Campus Satellite Photograph Map



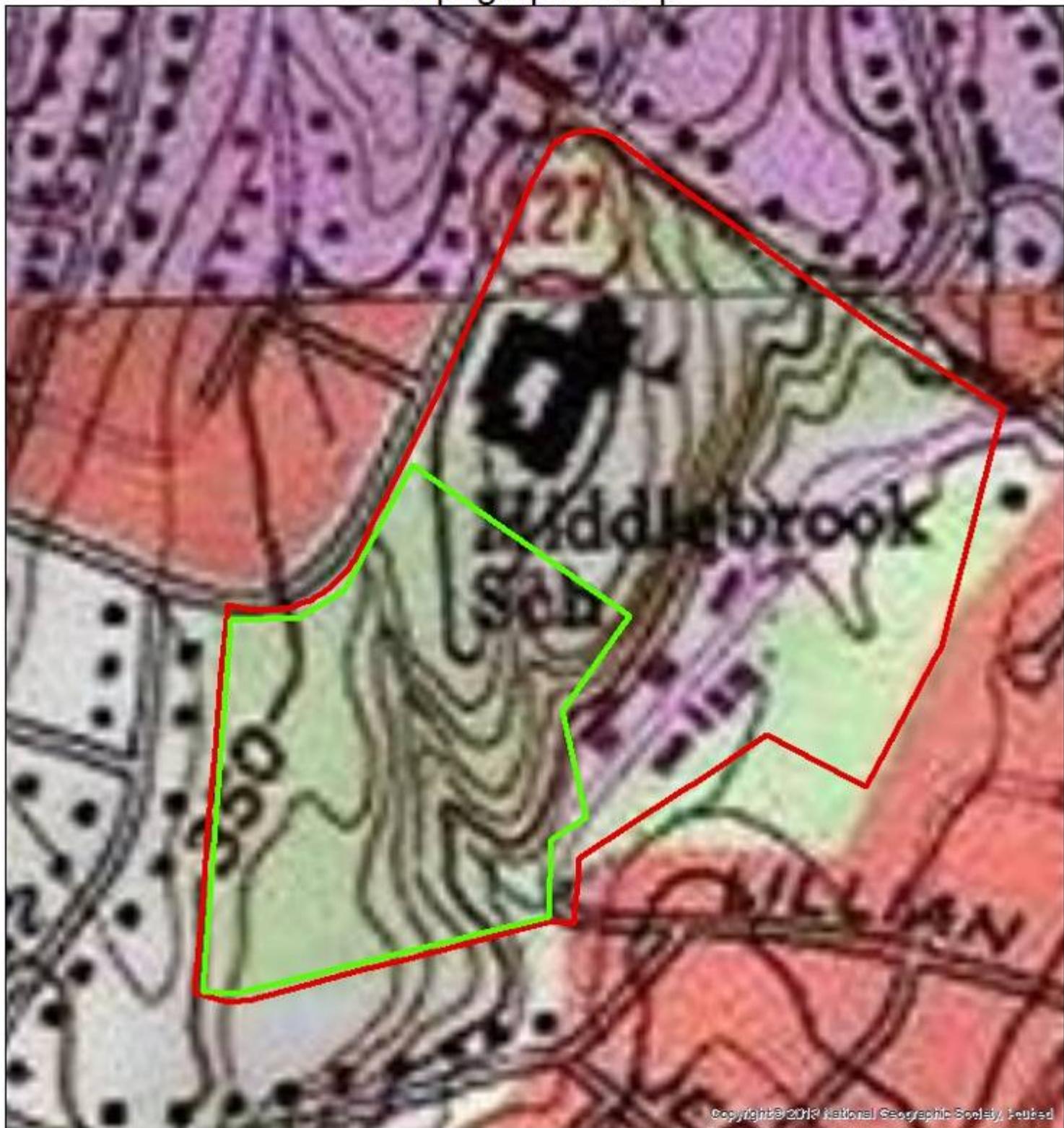
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



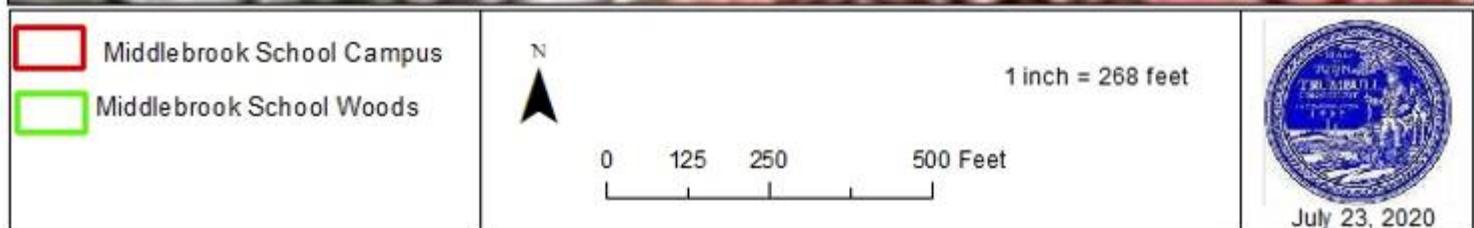
# Middlebrook School Campus Elevations Map



# Middlebrook School Topographic Map



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# Middlebrook School Campus Streams & Wetland Soils Map

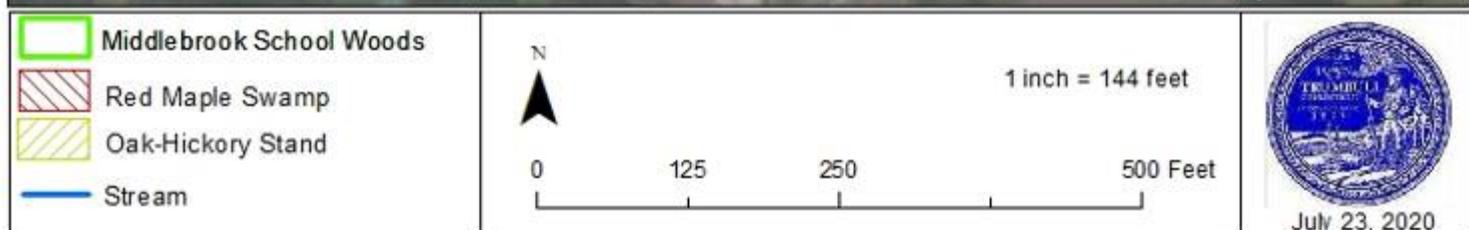


Middlebrook School Woods	N	1 inch = 144 feet	TOWNE OF MIDDLEBROOK, MASSACHUSETTS, 1712
Streams			
Wetland Soils	0	125 250 500 Feet	July 23, 2020

# Middlebrook School Campus Ecological Communities Map



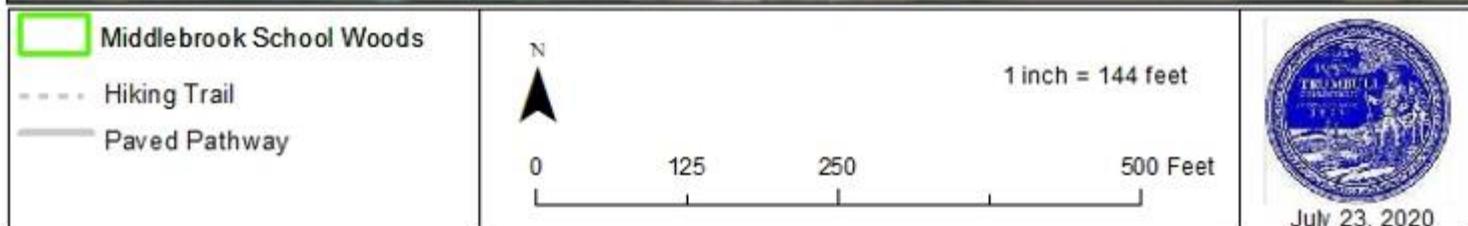
Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



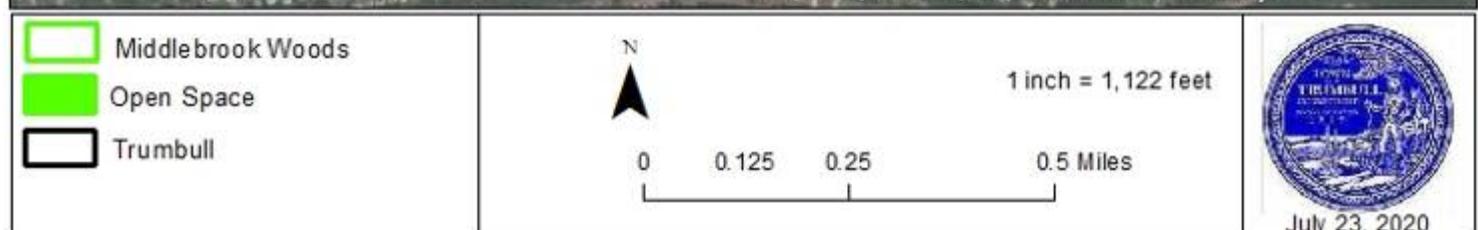
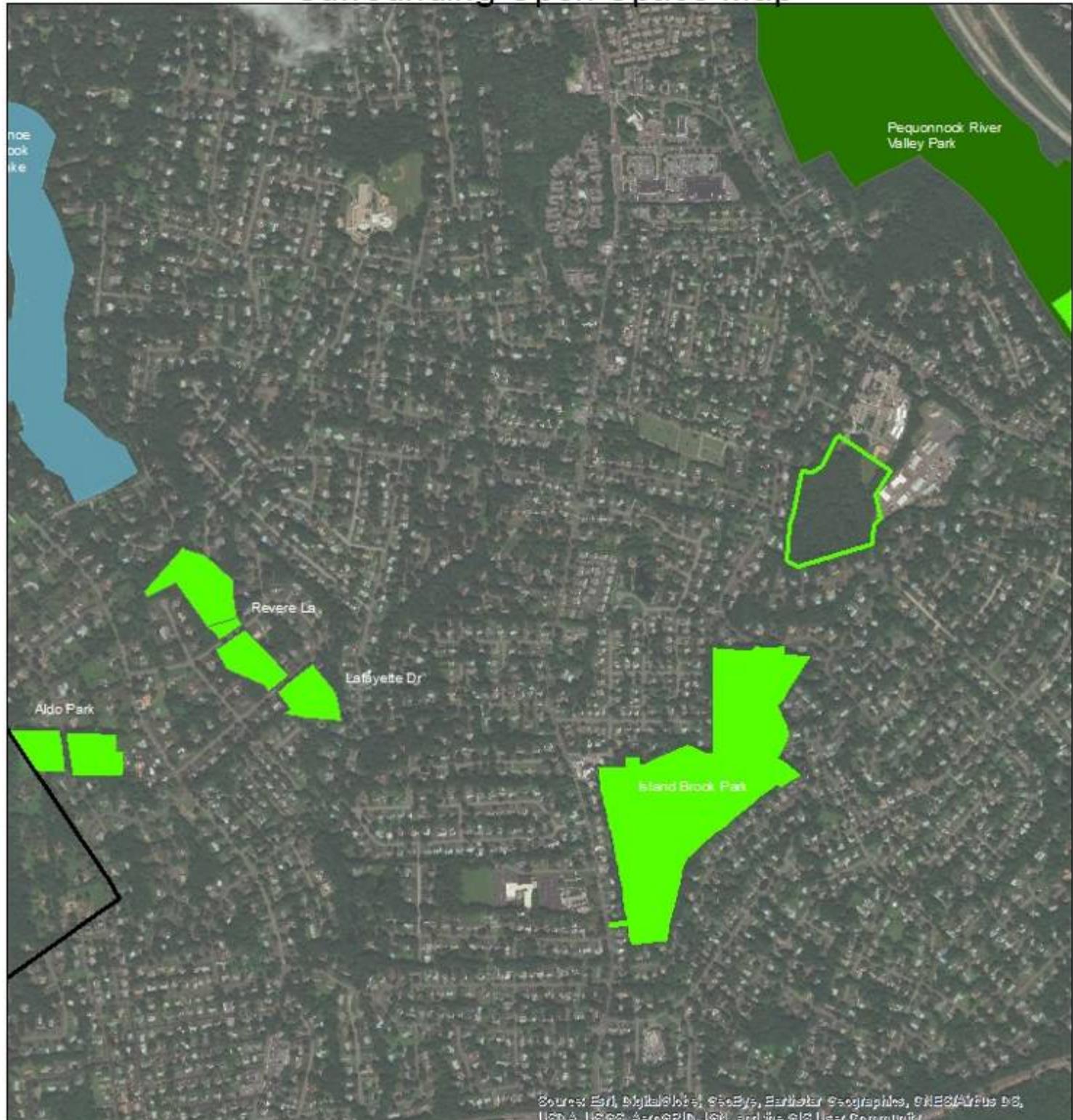
# Middlebrook School Campus Trail Map



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# Middlebrook School Campus Surrounding Open Space Map



THREATS:

- Invasive plants
- Deer browse
- Water pollution/stormwater runoff
- Litter-Park is well maintained now and litter-free

RECOMMENDATIONS:

- Trails-add blazes and signage
- Education-add signage and interpretive trail maps for students
- Monitor/remove invasive plants if spreading
- Continue to clean up trash

PLANT INVENTORY July 23, 2020 Field Survey

**Trees:**

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Castanea dentata* (American chestnut)  
*Fagus grandifolia* (American beech)  
*Liriodendron tulipifera* (tulip tree)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Sassafras albidum* (sassafras)

**Shrubs:**

*Hamamelis virginiana* (witch hazel)  
*Lindera benzoin* (spicebush)  
*Vaccinium angustifolium* (low-bush blueberry)  
*Viburnum acerifolium* (maple leaf viburnum)

**Vines:**

*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Maianthemum canadense* (Canada mayflower)  
*Symplocarpus foetidus* (skunk cabbage)

**Ferns and allies:**

*Athyrium filix-femina* (lady fern)  
*Dryopteris carthusiana* (spinulose wood fern)  
*Osmunda cinnamomea* (cinnamon fern)  
*Thelypteris noveboracensis* (New York fern)

## ABRAHAM NICHOL PARK

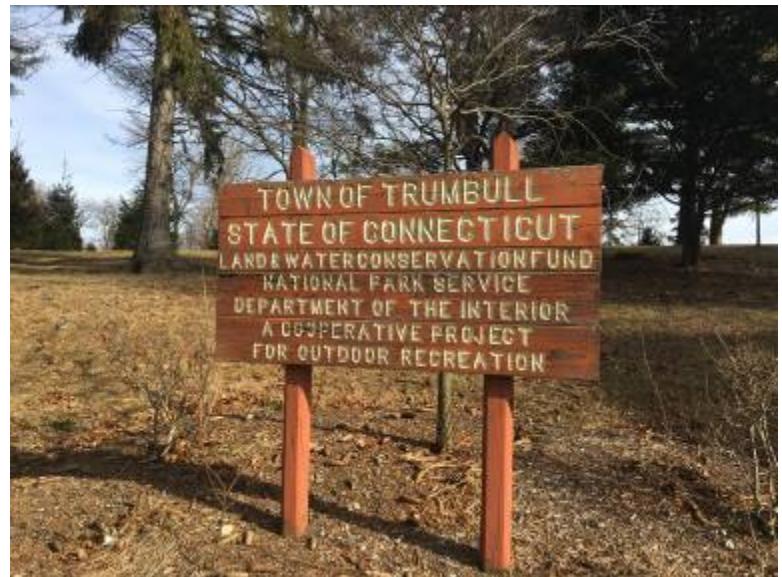
January 15, 2019 Field Survey

**CONSERVATION VALUES** include: Trees, orchards, evergreen groves, hiking trail, community garden, meadows and grasslands, nesting sites and stop over sites for migrating birds, habitat for pollinators, historic barn and building, opportunities for passive recreation and nature study and scenic vistas.

### PROPERTY DESCRIPTION:

Nichols Park is 13.8 acres of fields, orchards, gardens and woods located at 1860 Huntington Turnpike in the southeast portion of Trumbull (see Location Map page 235).

Abraham Nichols settled here and built a home in 1690. The Town of Trumbull bought the parcel in 1974 and began leasing the building to the Trumbull Historical Society in 1978.



To the south and across the street is Nothnagle Memorial Field, 4 acres in size, which has a baseball field and tennis courts (see Surrounding Open Space Map page 250). Adjacent to this is the Nichols Family Cemetery, 7.8 acres in size and adjacent to this to the south is 6.7 acres of Town land along Hilltop Drive. With permission of the Nichols Farm Burial Ground Association, owner of the cemetery, people could walk to and from the Nichols Park and the Town land at Hilltop Drive.

ECOLOGICAL COMMUNITIES:

Nichols Park has the following ecological communities (see Ecological Communities Map page 240 and Plant Inventory page 243):

GROUND & BUILDINGS: 5.5 acres

CONIFER FOREST: 3 acres

MEADOW: 2 acres

ORCHARD: 2 acres

COMMUNITY GARDENS: 0.67 acres

GROUND & BUILDINGS: 5.5 acres

This area is planted with non-native shrubs and trees including: magnolia, Chinese chestnut, English holly, Scots pine, arborvitae, cork tree, redwood, Japanese maple and katsura trees.

CONIFER FOREST: 3 acres

The paved path to the forest in the southern section is lined with a dozen large Norway spruces. The woods themselves have a wide variety of conifers including hemlock, white pine, Norway spruce, northern white cedar and Japanese yews with large rhododendron shrubs growing beneath. The understory has many black birch saplings and bladdernut trees. The land slopes westwardly and becomes wet with many spicebush shrubs in the shrub layer.



Norway spruce lining path

MEADOW: 2 acres

The east portion of the Park has 2 acres of meadow that appear to be regularly mowed (see Satellite Photograph Map page 236). Leaving a portion of this to be mowed once or twice a year would allow herbaceous plant to grow up for beneficial insects, birds and other wildlife. In the meadow is a specimen sugar maple. The grass beneath the tree's drip line should also be mowed less frequently for the health of the tree. Along the northern boundary is a large black walnut and several medium-size sugar maples; invasive ailanthus trees grow in a grove along the northwestern boundary.



Large sugar maple in center of meadow



Meadow

## NICHOLS PARK

ORCHARD: 2 acres

The 2 acre apple orchard is heavily pruned each winter. Rotating pruning every other year would allow more buds to flower and more fruit to be produced.



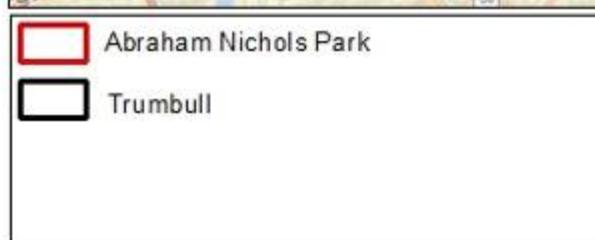
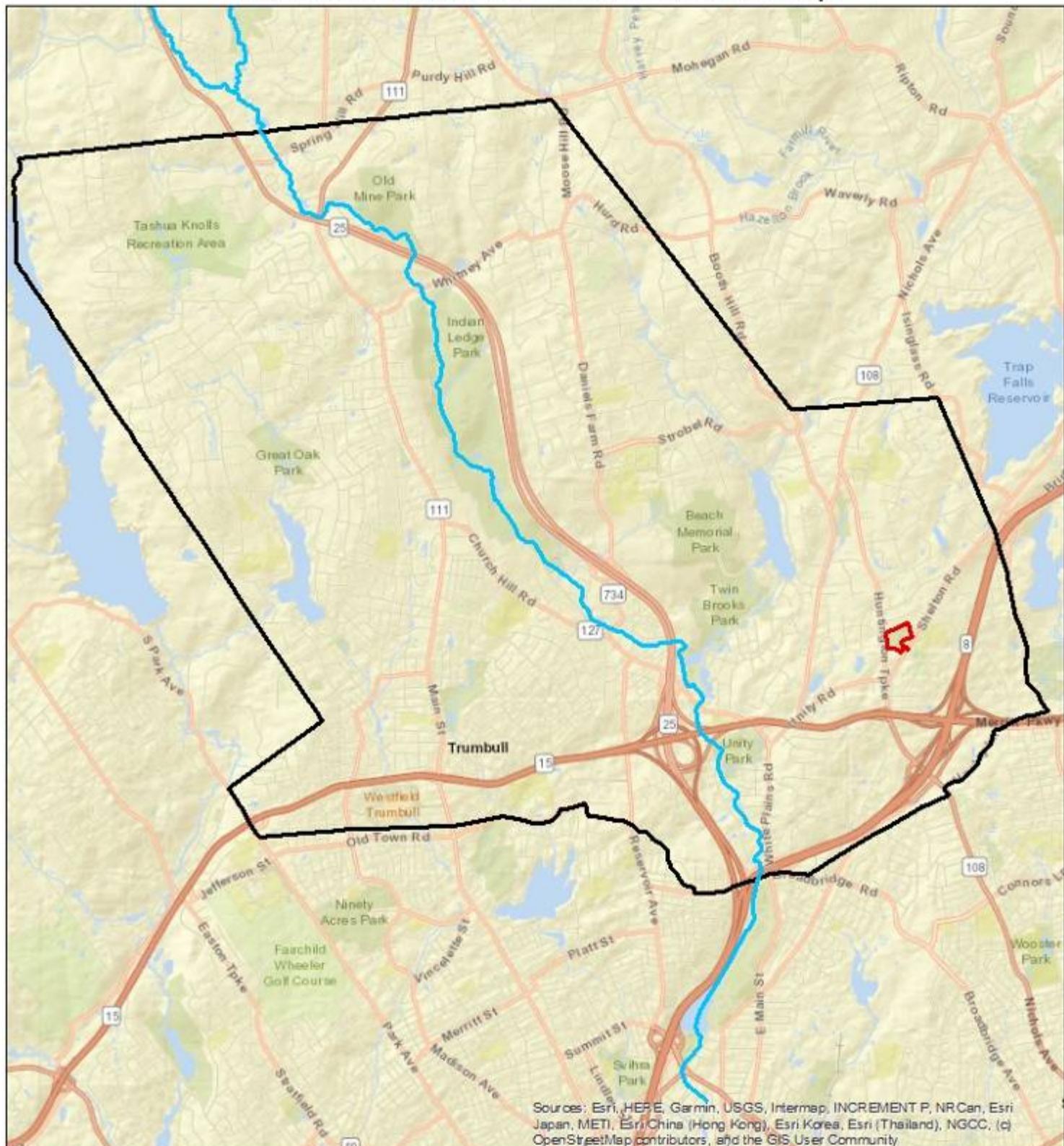
Gilbert Stanley apple orchard-1.5 acres

COMMUNITY GARDENS: .67 acres



Community gardens

# Abraham Nichols Park Location Map

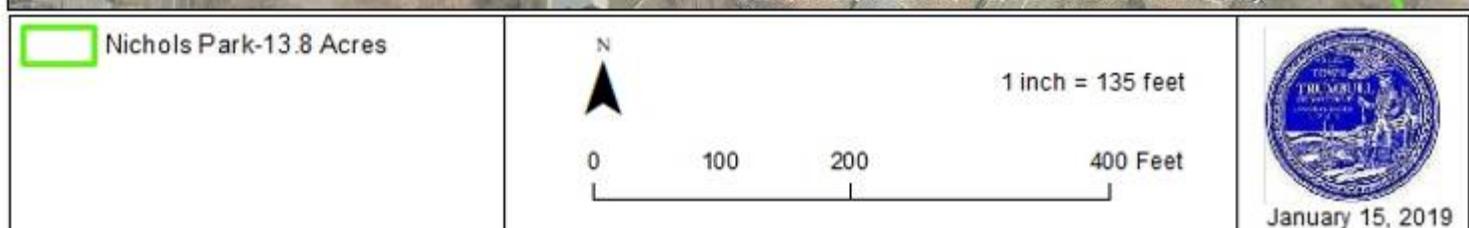


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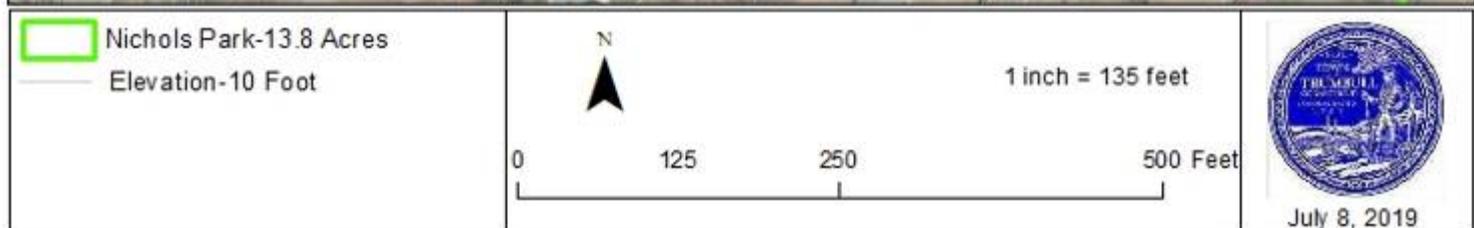
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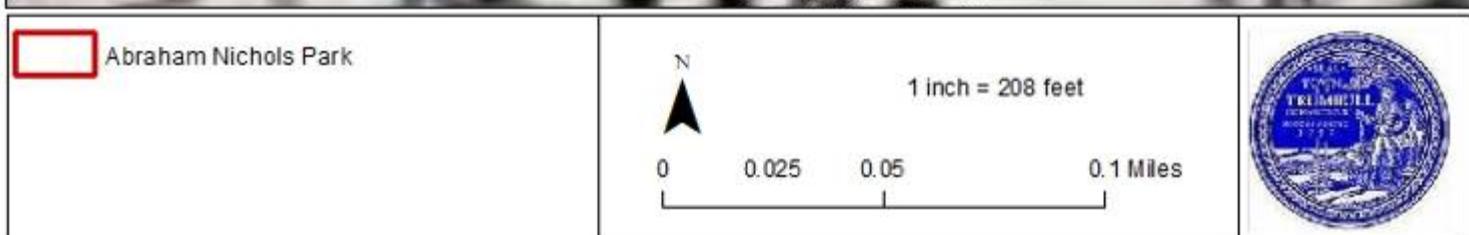
# Abraham Nichols Park-Wood's Estate Satellite Photograph Map



# Abraham Nichols Park Elevations Map



# Abraham Nichols Park Topographic Map



# Abraham Nichols Park Environmental Features Map



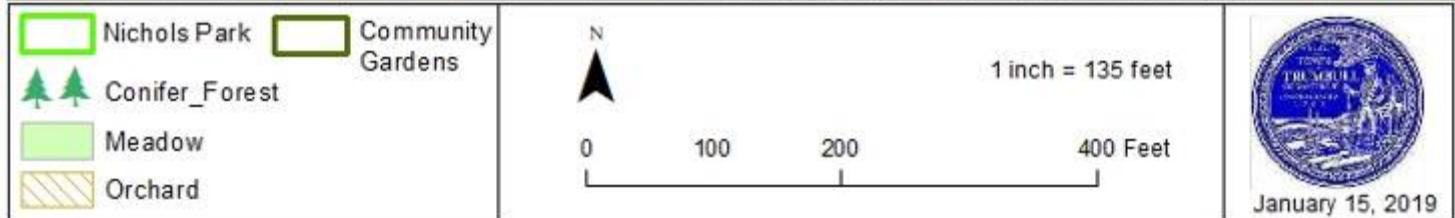
Source: U.S. Department of Agriculture, Soil Conservation Service  
State Soil Geographic (STATSGO) Connecticut

Source: U.S. Geological Survey (USGS)

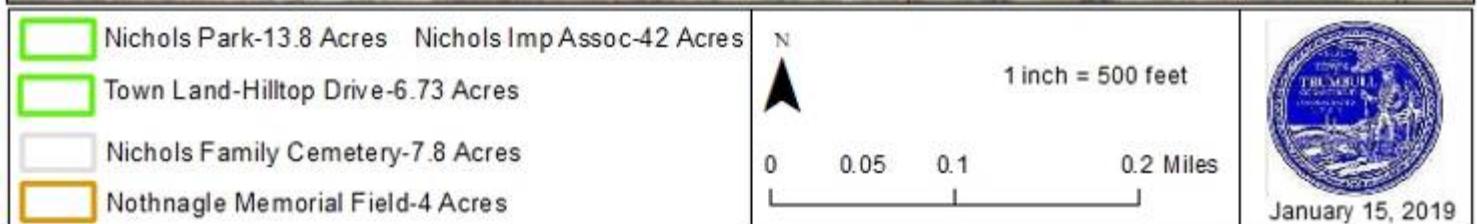
Users: CTDDEEP, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# Abraham Nichols Park-Wood's Estate Ecological Communities



# Abraham Nichols Park-Wood's Estate Surrounding Open Space Map



THREATS:

- Invasive ailanthus trees may spread
- Litter-Park is well maintained now and litter-free

RECOMMENDATIONS:

- Create meadows by brush hogging a portion of the large grassy area once every year rather than mowing regularly. Benefits to the town include lower labor and fuel costs associated with weekly mowing.
- Less aggressive pruning of orchard may allow trees to fruit more
- Trail can be formalized with signs and blazes
- Continue to clean up trash

# NICHOLS PARK

## PLANT INVENTORY: January 15, 2019 Field Survey

### Trees:

*Acer platanoides* (Norway maple)  
*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Ailanthus altissima* (tree of heaven)  
*Betula lenta* (black birch)  
*Cornus florida* (flowering dogwood)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Ilex aquifolium* (English holly)  
*Juglans nigra* (black walnut)  
*Juniperus virginiana* (red cedar)  
*Malus domestica* (apple)  
*Picea abies* (Norway spruce)  
*Picea glauca* (white spruce)  
*Pinus strobus* (white pine)  
*Platanus occidentalis* (American sycamore)  
*Prunus serotina* (black cherry)  
*Quercus rubra* (red oak)  
*Robinia pseudoacacia* (black locust)  
*Staphylea trifolia* (American bladdernut)  
*Thuja occidentalis* (northern white cedar)  
*Tsuga canadensis* (eastern hemlock)  
*Ulmus americana* (American elm)

### Shrubs:

*Berberis thunbergii* (Japanese barberry)  
*Euonymus alatus* (winged euonymus)  
*Ilex verticillata* (winterberry holly)  
*Kalmia latifolia* (mountain laurel)  
*Lonicera morrowii* (Morrow's honeysuckle)  
*Mitchella repens* (partridgeberry)  
*Rhododendron maximum* (rhododendron)  
*Rosa multiflora* (multiflora rose)  
*Rubus spp.* (blackberry)  
*Sambucus canadensis* (common elderberry)  
*Staphylea trifolia* (American bladdernut)

### Vines:

*Calystegia sepium* (hedge bindweed/hedge mourning glory)  
*Campsis radicans* (trumpet vine)  
*Celastrus orbiculatus* (Asiatic bittersweet)  
*Euonymus fortunei* (climbing euonymus, wintercreeper)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Toxicodendron radicans* (poison ivy)  
*Vitis sp.* (grape)

**Herbs:**

*Alliaria petiolata* (garlic mustard)  
*Artemisia vulgaris* (common mugwort)  
*Asclepias syriaca* (common milkweed)  
*Aster divaricatus* (white wood aster)  
*Bidens frondosa* (beggar ticks)  
*Chenopodium album* (pigweed)  
*Circaeа lutetiana* (enchanter's nightshade)  
*Coronilla varia* (crown vetch)  
*Eupatorium perfoliatum* (boneset)  
*Eupatorium dubium* (Joe-Pye weed)  
*Euthamia graminifolia* (grass-leaved goldenrod)  
*Geum canadense* (avens)  
*Impatiens capensis* (orange jewelweed)  
*Maianthemum canadense* (Canada mayflower)  
*Oxalis stricta* (yellow wood sorrel)  
*Phytolacca americana* (pokeweed)  
*Plantago major* (common plantain)  
*Polygonum pensylvanicum* (smartweed)  
*Polygonum virginianum* (jumpseed)  
*Prunella vulgaris* (self-heal)  
*Rumex acetosella* (sheep sorrel)  
*Rumex spp.s* (dock)  
*Solidago Canadensis* (Canada goldenrod)  
*Solidago patula* (rough-leaved goldenrod)  
*Verbascum thapsus* (common mullein)  
*Vernonia noveboracensis* (New York ironweed)

**Grasses:**

*Dactylis glomerata* (orchard grass)  
*Tridens flavus* (purple-top grass)

**Ferns:**

*Athyrium filix-femina* (lady fern)  
*Dennstaedtia punctilobula* (hay-scented fern)  
*Polystichum acrostichoides* (Christmas fern)

March 5, 2020 Field Survey

**CONSERVATION VALUES** include: Forests with large trees, hiking trail, wetlands and vernal pools, ponds, riparian zones, floodplain forests, streams and seeps, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

PROPERTY DESCRIPTION:

This 15.2 acre assemblage is comprised of four linear parcels located in the southwest portion of Trumbull (see Location Map page 250). The northern parcel is referred to as Davidow Park. The northern portion can be accessed at Glenbrook Road; the southern portion can be accessed at Revere Lane. The middle parcel, which contains a small playground called Joan Estates Tot Lot, is accessed from Revere Lane. The southern parcel is accessed at Lafayette Road, although it is too wet to walk.

The entire property has wetland soils; though when walked in March 2020 all but the southern parcel was dry (see Streams & Wetlands Map page 254). A short hiking trail runs north from Revere Lane across what appear to be an old railroad embankment. A footbridge crosses one of the two streams in the northeast section. The trail and footbridge could be connected with a hiking trail, creating a loop trail for people visiting the



Playground at Revere Lane town-owned parcel



Playground at Revere Lane town-owned parcel

## DAVIDOW PARK

playground (see Possible Hiking Trails Map page 255). Another linear trail could run from the playground south along the dry eastern portion of the middle parcel. The southern parcel at Lafayette Drive is very wet and therefore not accessible.



Davidow Park footbridge over stream

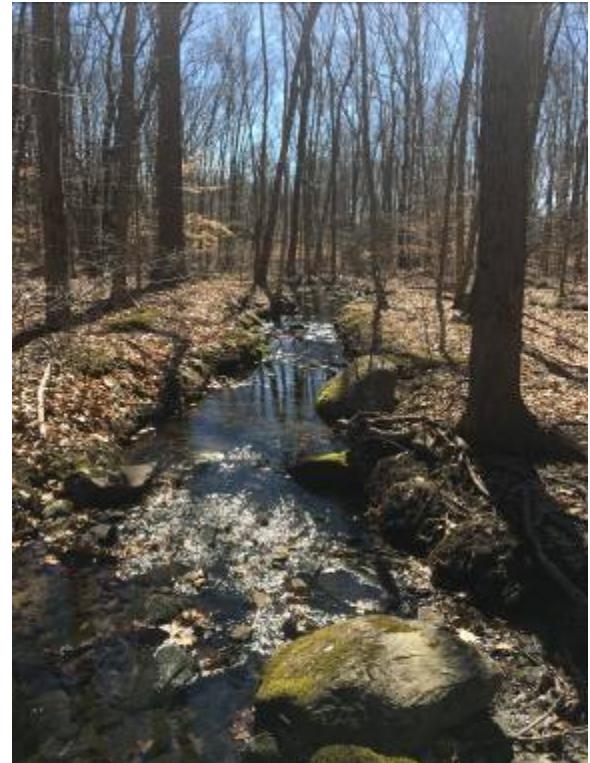


Davidow Park trail along old railroad embankment

Two streams flow north to south through the parcels. One stream, Horse Tavern Brook, flows from Canoe Brook Lake to the north while the second stream emanates from a stormwater culvert at Glenbrook Road (see Streams & Wetlands Map page 254). The two streams converge and continue flowing 8 miles south before emptying into Long Island Sound.



View north from Revere Lane of Horse Tavern Brook



Davidow Park stream  
from stormwater drains on Glenbrook Road

The four parcels are flat, with elevations of 340 feet above sea level to the north and east dropping to 300 feet at the properties' southern boundary (see Elevation Map page 252 and Topographic Map page 253). The property is completely surrounded by dense single-family housing (see Surrounding Open Space Map page 257). With the exception of the 0.25 acre playground, the property is entirely wooded (see Satellite Photograph Map page 251 and Ecological Communities Map page 256).

The Davidow Park parcel has a canopy of medium sized tulip trees and many large, 30 inch in diameter white, red and black oaks. A couple of large white pines grow close to Revere Lane. Oak and tulip trees are very large at the extreme northern section of the Park. Other trees include bitternut and mockernut hickories, red maples and black birch. The understory includes beech and yellow birch trees along with smaller sassafras trees and several serviceberries. The shrub layer is sparse and includes witch hazel along with occasional blueberry shrubs and a lone holly shrub with many spicebush shrubs in the northern section. Sweet pepperbush (clethra) shrubs are dense in the northeastern corner where stormwater enters from Glenbrook Road. The ground layer is also sparse due to the season-this inventory was done on March 5, 2020- and includes shinleaf and, close to surrounding homes, escaped pachysandra. Skunk cabbage is common in the wetter northeast corner of the parcel by the stream.

The center parcel, referred to as Revere Lane, is completely wooded with medium sized red maple, tulip, white, red and black oak, yellow birch and pignut and shagbark hickories. Beech saplings are numerous in the understory along with ironwood and serviceberry trees. Witch hazel is the dominant shrub while green briar vine and white pine and Norway spruce seedlings make up the ground layer. A large, specimen white oak measuring 33 inches in diameter grows at the playground, providing welcome shade.

The 15 acre property is a healthy, attractive woods with few invasive plants and with many dry, upland areas that could provide hiking trails for those families visiting the Joan Estates Tot Lot playground and for neighbors.

## DAVIDOW PARK

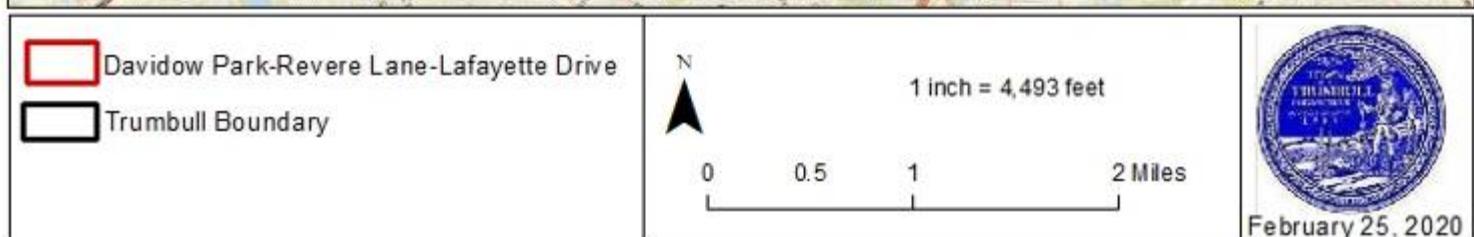
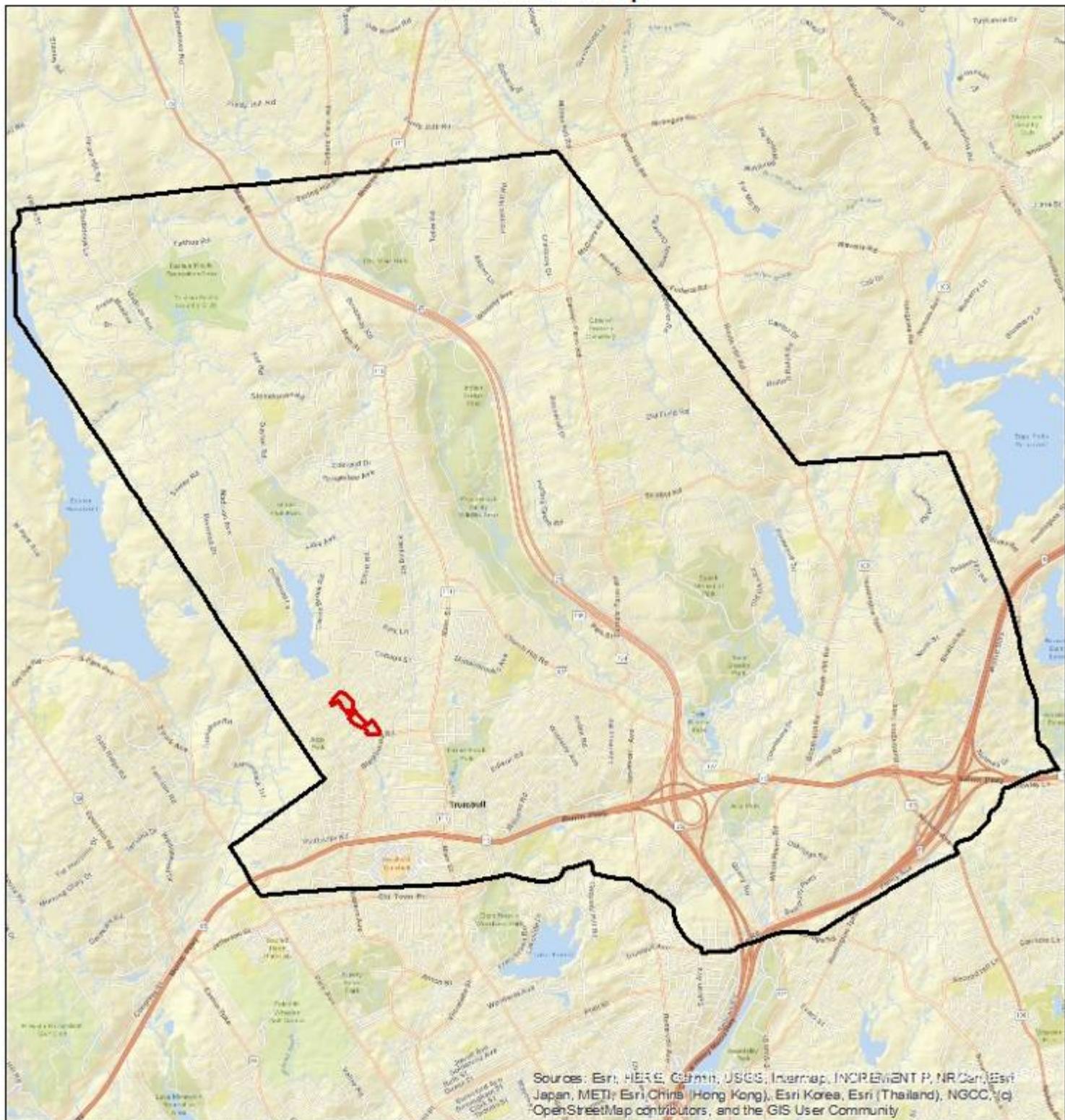
### ECOLOGICAL COMMUNITIES:

Davidow Park and the three adjacent parcels have the following ecological communities (see Ecological Communities Map page 256 and Plant Inventory page 259):

Red Maple Swamp: 8.7 acres

Mixed Deciduous Stand: 6.5 acres

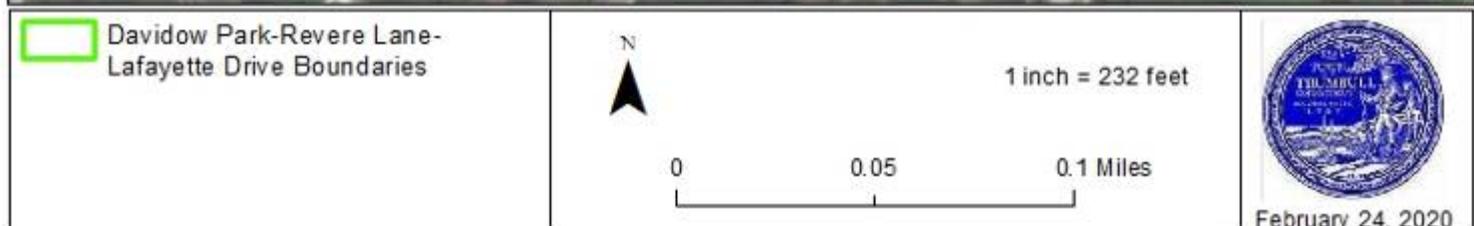
# Davidow Park-Revere Lane-Lafayette Drive Location Map



# Davidow Park-Revere Lane-Lafayette Drive Satellite Photograph Map



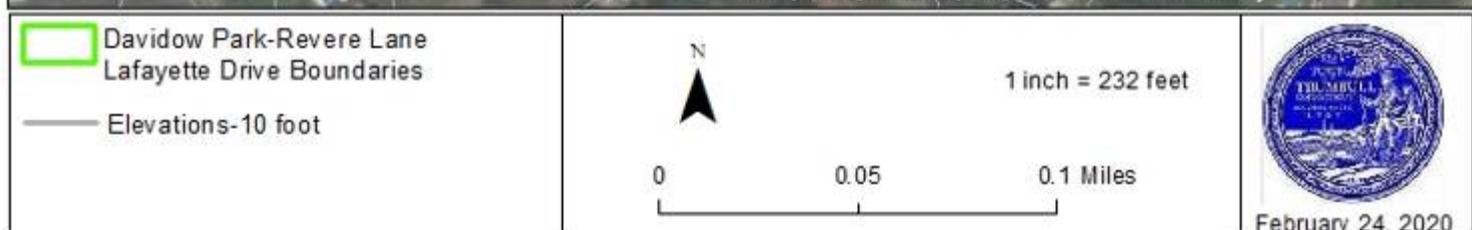
Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



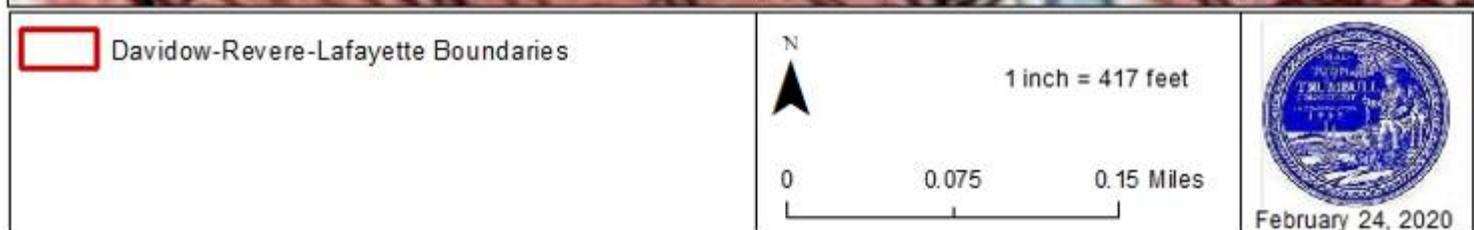
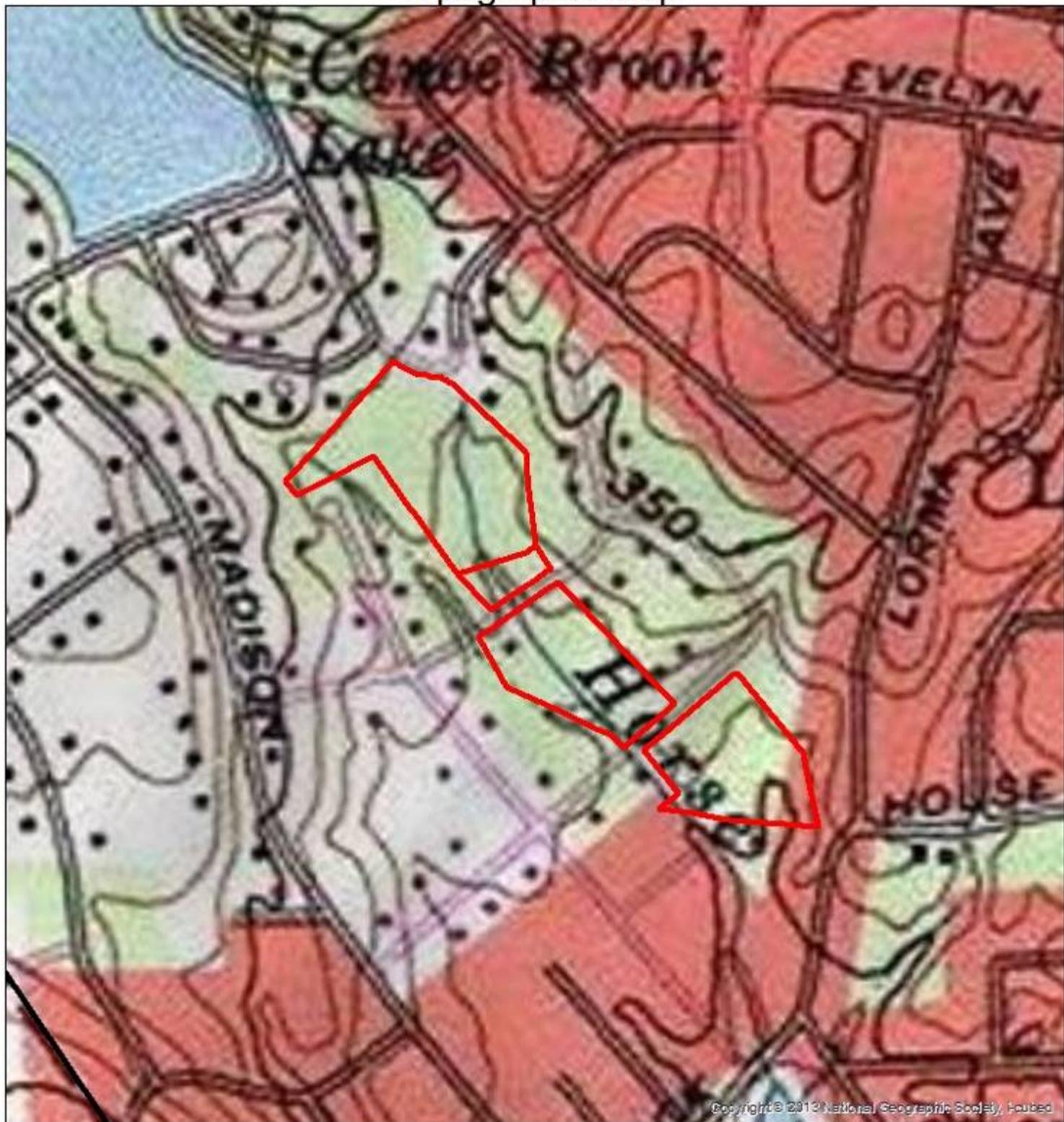
# Davidow Park-Revere Lane-Lafayette Drive Elevations Map



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Davidow Park-Revere Lane-Lafayette Drive  
Topographic Map



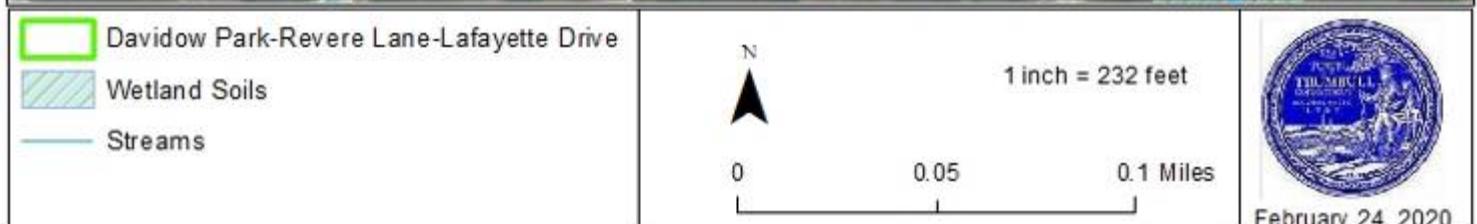
# Davidow Park-Revere Lane-Lafayette Drive Streams & Wetland Soils Map



Source: Wetland Soils: U.S. Department of Agriculture  
Soil Conservation Service, State Soil Geographic  
(STATSGO) Connecticut

Source: Hydrology: Source: USGS 1960-1984 data compiled by CT DEEP

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AerialGrid, IGN, and the GIS User Community



# Davidow Park-Revere Lane-Lafayette Drive Possible Hiking Trails Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Davidow Park-Revere Lane-Lafayette Drive Trail-Existing Trail_Entrance Trails-Future	Streams Footbridge Joan Estates Playground	1 inch = 232 feet 0 0.05 0.1 Miles	March 5, 2020
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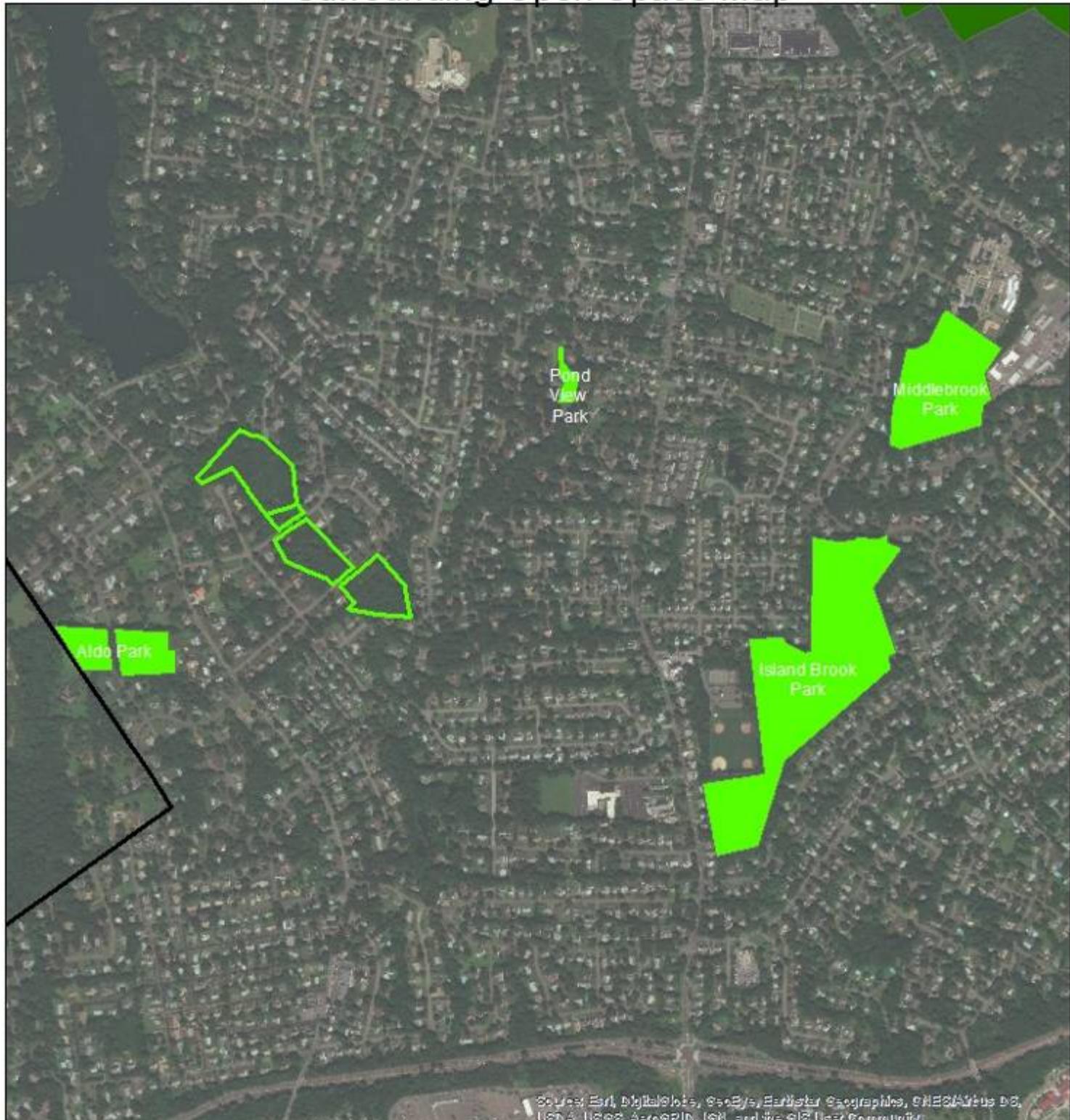
# Davidow Park-Revere Lane-Lafayette Drive Ecological Communities Map



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<p>Davidow Park-Revere Lane-Lafayette Drive</p> <p>Red Maple Swamp</p> <p>Mixed Deciduous Stand</p> <p>Streams</p>	<p>N</p>  <p>1 inch = 232 feet</p> <p>0 0.05 0.1 Miles</p>	 <p>March 5, 2020</p>
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# Davidow Park-Revere Lane-Lafayette Drive Surrounding Open Space Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



THREATS:

- Water pollution from storm water runoff from neighbors and surrounding streets
- Flooding
- Clearing/dumping by neighbors
- Deer browse
- Litter-Park is well maintained now and litter-free
- Climate change increasing flooding

RECOMMENDATIONS:

- The short existing trail can be connected by a new trail to the footbridge, creating a loop trail for people visiting the playground.
- Another linear trail could run from the playground south along the dry eastern portion of the middle parcel.
- Continue to monitor/clean up trash

PLANT INVENTORY MARCH 5, 2020 (more species would be observed during the growing seasons):

**Trees:**

*Acer rubrum* (red maple)  
*Amelanchier arborea* (serviceberry)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carpinus caroliniana* (ironwood)  
*Carya cordiformis* (bitternut hickory)  
*Carya glabra* (pignut hickory)  
*Carya ovata* (shagbark hickory)  
*Carya tomentosa* (mockernut hickory)  
*Fagus grandifolia* (American beech)  
*Hamamelis virginiana* (staghorn sumac)  
*Liriodendron tulipifera* (tulip tree)  
*Picea abies* (Norway spruce)  
*Pinus strobus* (white pine)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Sassafras albidum* (sassafras)  
*Ulmus americana* (American elm)

**Shrubs:**

*Clethra alnifolia* (pepperbush)  
*Hamamelis virginiana* (witch hazel)  
*Lindera benzoin* (spicebush)  
*Vaccinium corymbosum* (high-bush blueberry)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Alliaria petiolata* (garlic mustard)  
*Artemisia vulgaris* (common mugwort)  
*Pachysandra terminalis* (pachysandra)  
*Pyrola elliptica* (shinleaf)  
*Rubus phoenicolasius* (wineberry)  
*Rubus* spp. (raspberry)  
*Symplocarpus foetidus* (skunk cabbage)

**Ferns and allies:**

*Epifagus americana* (beech drops)  
*Onoclea sensibilis* (sensitive fern)

## ALDO PARK

July 28, 2020 Field Survey

**CONSERVATION VALUES** include: Wooded wetlands, riparian zones, streams and seeps, open wet meadow/pond, grasslands nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

### PROPERTY DESCRIPTION:

The 7-acre Aldo Park is located along the Trumbull-Easton border along the western edge of Trumbull (see Location Map page 264). Access is limited. Westwind Avenue runs through the two segments of the Park but wetlands on either side make these sections impassable. The Town of Trumbull has a right of way at 4371 Madison Avenue allowing access for lawn cutting which the town does on the 1.5 acres along the eastern boundary. A sign there reads 'Anthony Aldo Memorial Park, Long Hill Garden Club.' It is not clear if the public has access. A foot bridge connects the lawn area to the seasonal pond.



Sign in lawn area at eastern edge of Park



Lawn area



Foot bridge leading to pond

## ALDO PARK

Most of the Park is wetland. 5.5 acres of the Park are wooded wetlands; 1.5 acres are maintained as lawn (see Satellite Photograph Map page 265). The Park is surrounded by densely developed single-family homes (see Satellite Photograph Map page 265). Davidow Park lies 0.25 miles to the east while Mountain Grove Cemetery is just 200 feet to the west over the border in the town of Easton (see Surrounding Open Space Map page 270).

Several small streams flow into the Park from the east into the Park's extensive wetland (see Streams & Wetland Soils Map page 268). A small seasonal pond which in dry periods is an open wet meadow lies in the southeast section of the Park.



Seasonal pond/open wet meadow

The Park is relatively flat with elevations falling from a peak elevation of 380 feet above sea level at the Park's western section to a low point of 350 feet at the Park's eastern section (see Elevations and Topographic Maps pages 266 & 267).

The Park is too wet for hiking trails. The large lawn area may be allowed to revert to meadow by brush hogging the area once during winter. These taller grass meadows, as opposed to tightly mowed lawns, provide habitat for a wide range of insects including pollinators, amphibians and reptiles and small mammals. Benefits to the town include lower labor and fuel costs associated with weekly mowing. Taller grasses with their deeper roots resist drought and diseases, also reducing maintenance expenses. The Long Hill Garden Club that has planted trees and shrubs at the Park in the past may be interested in establishing a meadow here for pollinators, as it has done at other areas in Trumbull.

### ENVIRONMENTAL COMMUNITIES:

5.5 acres of the Park can be classified as a Red Maple Swamp community consisting of wetland soils and red maple trees while the remaining 1.5 acres of the Park is maintained as lawn. A small, seasonal pond of 0.10 acres lies along the south boundary (see Ecological Communities Map page 269). These 5.5 acres wooded wetlands provide a small amount of habitat in a heavily developed area.

Aldo Park has the following Ecological Communities (see Ecological Communities Map page 269 and Plant Inventory page 272):

RED MAPLE SWAMP: 5.5 acres

LAWN: 1.5 acres

SEASONAL POND: 0.1 acres

#### RED MAPLE SWAMP: 5.5 acres

This area is wetland and is dominated by red maple trees along with black birch and a few tulip trees. Elm trees grow in the understory. The shrub layer is relatively thick despite the presence of deer and includes large winterberry, spicebush and blueberry shrubs along with non-native, invasive multi-flora rose shrubs. Ground layer wetland plants include cinnamon, lady and sensitive fern, Jack in the pulpit and nettles. This wetland provides important ecological functions including stormwater containment which is important in this densely developed neighborhood. The Park's wetlands, streams and pond also provide habitats for insects including pollinators, reptiles and amphibians, birds and other wildlife.

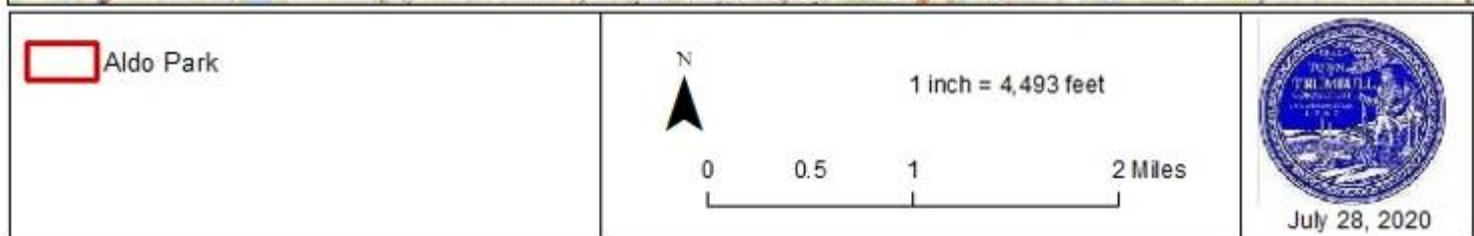
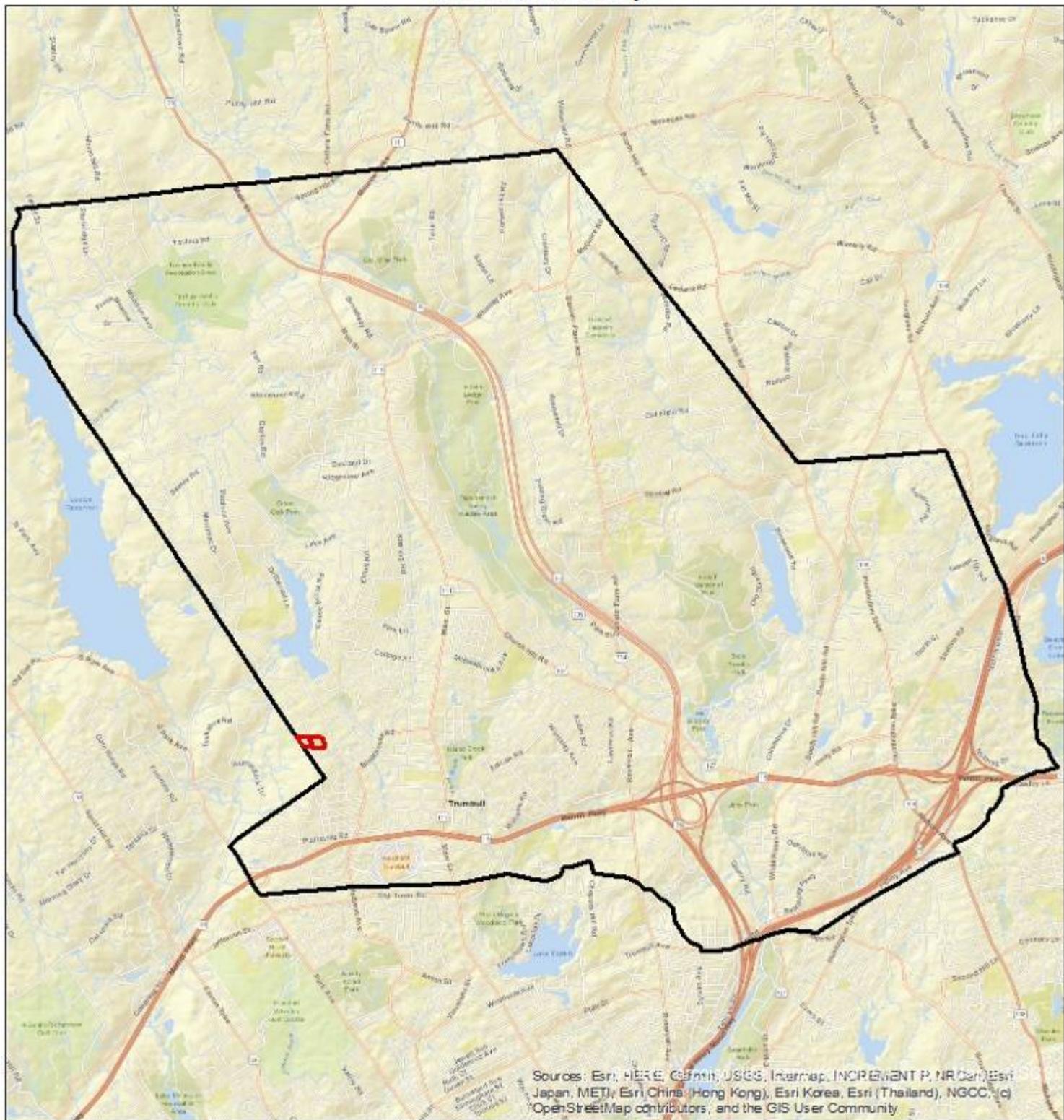
#### LAWN: 1.5 acres

Lawn provides little ecological benefit and given the limited public access of the Park, normal lawn benefits of recreation do not apply here. Letting some or all of the lawn grow into taller grasses will save the Town the expense of regular mowing and will increase biodiversity. As mentioned, the Long Hill Garden Club may be interested in creating pollinator habitat here with taller native grasses and native wildflowers.

#### SEASONAL POND: 0.1 acres

This appears to be a man-made depression; a mound of soil and asphalt is nearby. The pond was dry in mid-summer and has many native plants including cattail, blue joint grass and sensitive fern.

# Aldo Park Location Map



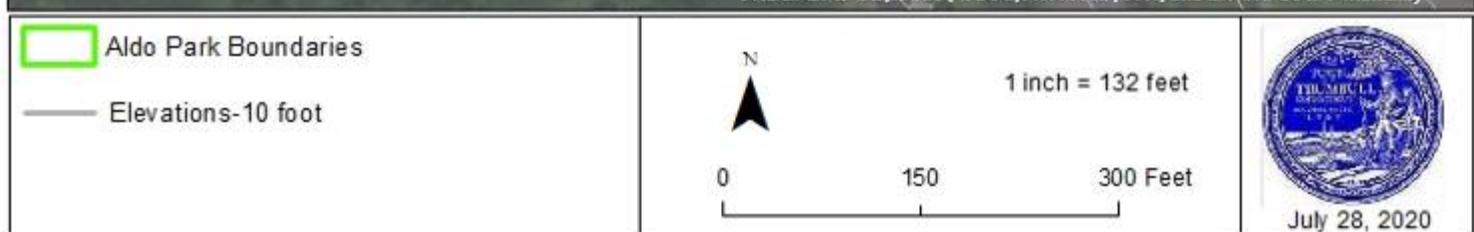
# Aldo Park Satellite Photograph Map



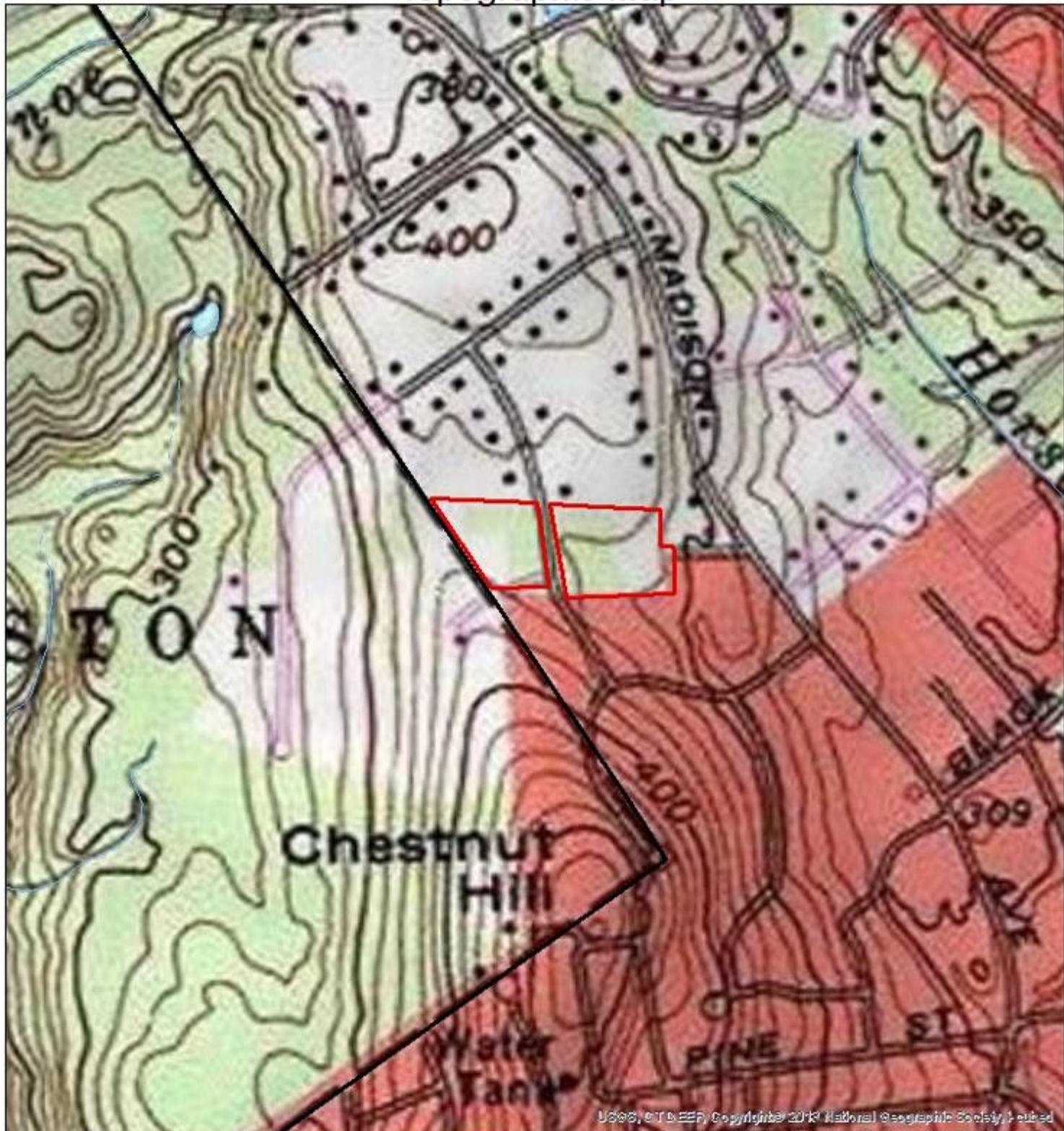
Used, © TIGER, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

 Aldo Park Boundaries	 1 inch = 132 feet	
	0 150 300 Feet	July 28, 2020

# Aldo Park Elevations Map



# Aldo Park Topographic Map



Aldo Park Boundaries
— Trumbull Boundaries



# Aldo Park Streams & Wetland Soils Map



<p>Aldo Park Boundaries</p> <p>Wetland Soils</p> <p>Streams</p>	<p>N</p> <p>1 inch = 132 feet</p> <p>0 150 300 Feet</p>	<p>THIRTEEN MILE CREEK WATERSHED PROTECTION COMMISSION TOWN OF TIBURON CONNECTICUT U.S.A.</p> <p>July 28, 2020</p>
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# Aldo Park Ecological Communities Map



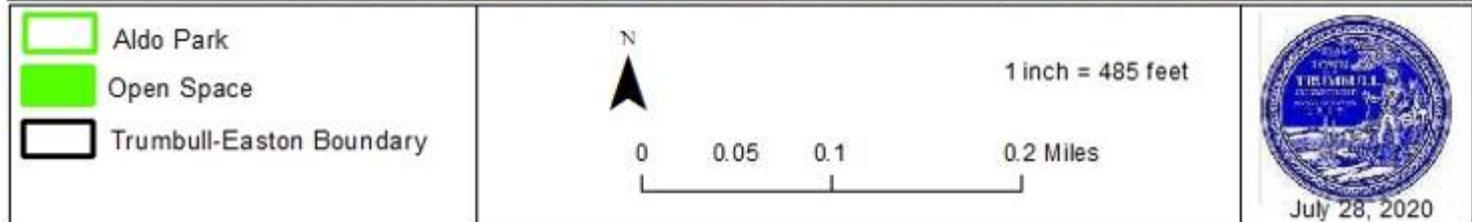
Used, with permission, source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, Aerial3D, IGN, and the Esri User Community

<p>Aldo Park Boundaries</p> <p>Red Maple Swamp</p> <p>Lawn</p> <p>Pond</p>	<p>Streams</p>	<p>N</p>  <p>1 inch = 132 feet</p> <p>0 150 300 Feet</p>	 <p>July 28, 2020</p>
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## Aldo Park Surrounding Open Space Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



THREATS:

- Clearing/dumping of yard waste by neighbors
- Litter-Park is well maintained now and litter-free

RECOMMENDATIONS:

- Create meadow habitat by brush hogging a portion of the lawn area once every year rather than mowing regularly
- Plant shrubs and wildflowers in meadow for pollinators
- Enlist support of Long Hill Garden Club
- Add bluebird houses in fields
- Continue to monitor/clean up trash

PLANT INVENTORY July 28, 2020 Field Survey

**Trees:**

*Acer rubrum* (red maple)  
*Betula lenta* (black birch)  
*Betula populifolia* (gray birch)  
*Fagus grandifolia* (American beech)  
*Liquidambar styraciflua* (sweetgum) (planted)  
*Liriodendron tulipifera* (tulip tree)  
*Prunus serotina* (black cherry)  
*Ulmus americana* (American elm)

**Shrubs:**

*Ilex verticillata* (winterberry)  
*Lindera benzoin* (spicebush)  
*Rosa multiflora* (multiflora rose)  
*Vaccinium corymbosum* (high-bush blueberry)  
*Viburnum dentatum* (arrowwood viburnum)

**Vines:**

*Parthenocissus quinquefolia* (Virginia creeper)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Arisaema triphyllum* (Jack-in-the-pulpit)  
*Artemisia vulgaris* (common mugwort)  
*Eupatorium purpureum* (Joe Pye weed)  
*Symplocarpus foetidus* (skunk cabbage)  
*Typha latifolia* (common cattail)  
*Urtica dioica* (stinging nettle)

**Grasses:**

*Calamagrostis Canadensis* (blue joint)

**Ferns and allies:**

*Athyrium filix-femina* (lady fern)  
*Onoclea sensibilis* (sensitive fern)  
*Osmunda cinnamomea* (cinnamon fern)

October 30, November 2, 2017 Field Surveys

CONSERVATION VALUES include: Trees, evergreen groves, hiking trails, wetlands, a pond, riparian zones, streams, shrubland, meadows and grasslands, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

Trumbull Nature and Arts Center (TNAC) is a non-profit organization that provides nature-rich experiences to the community. In 2008 the town passed a resolution dedicating the property to the TNAC “in perpetuity for nature, environmental and art education and such other programs as said Commission may deem appropriate, in accordance with its mission statement”.<sup>74</sup>

The 10 acre TNAC property is located in the northwest section of Trumbull, Connecticut (see Location Map page 279). The property is mostly open land with approximately 4 acres of old field habitat west of the nature center building and approximately 3 acres of lawn east of the building (see Satellite Photograph Map page 280). An approximately 1.5 acre pond lies just south of the building. North Farrar Brook flows from the northwest boundary into the pond, flowing out of the pond east to the Pequonnock River located .25 miles to the east. A 0.5 acre wetland lies in the western portion of the west meadow, draining eastward into North Farrar Brook (see Streams, Wetlands & Pond Maps page 283). A half dozen medium to large deciduous trees grow along the brook close to the property’s southwest boundary. A large, 38 inch in diameter sugar maple stands in front of the building. The tree’s age is estimated to be at least 150 years. A grove of hemlocks grow along the northern boundary and on both sides of the brook. The fields are made up of native little bluestem grass, native goldenrods and native red cedar trees with many non-native autumn olive shrubs and several non-native evergreens, remnants of its previous use as a tree farm. As is the case all over the northeast region, non-native, invasive plants, most of which have little value to wildlife, are spreading and out competing native plants.

The property is relatively flat, sloping from a high point of 350 feet above sea level in elevation at the western boundary to a low point of 330 feet above sea level at the eastern half of the property (see Elevations Map page 281). The property to the south and west of the

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<sup>74</sup> Town Council resolution, November 6, 2008

TNAC, however, is steeply sloped, dropping nearly 100 feet from 420 feet in elevation to 330 feet in elevation. Hiram's Hill reaches 548 feet in elevation .75 miles to the northwest of the property (see Topographic Map page 282). These steep slopes funnel North Farrar Brook from the hilltops to the low-lying land of the nature center. This has created the property's deposits of sand and gravel and topographic maps indicate that sand and gravel were mined here in the past. The property's soil is Agawam fine sandy loam which is a very deep, well drained soil formed in sandy, water deposited materials on outwash plains such as this. Soil descriptions mention that these soils are sometimes mined for sand and gravel and sometimes used for nurseries, which accurately describes the property's past usage.

The Center is bounded by Route 25 to the east and residential homes to the north, west and south. The Center is easily accessible from Route 25 with ample parking on the grass alongside the driveway. At least four wildflower gardens have been planted in the front and rear of the building. There are four walking trails totaling 2/3rds of a mile that circle the pond and continue around and through the meadows (see Trails Map page 285).

## ECOLOGICAL COMMUNITIES

The TNAC has the following ecological communities (see Ecological Communities Map page 284 and Plant Inventory page 286):

Lawn-3.0 Acres

East Meadow-2.5 Acres

West Meadow/Wetland-1.0 Acre

Hemlock Grove-1.0 Acres

Pond-1.5 Acres

Shrubland Border-1 Acre

Riparian/Brook-0.50 Acres

Front Meadow-0.05 Acres (included in Lawn acreage)

Wetland-0.50 Acres (included in West Meadow acreage)

### LAWN-3.0 Acres

Most lawn areas provide little value for nature. This lawn has aesthetic benefits and provides areas for programs and parking and parts could be allowed to revert to meadow. A small, 2,000 square foot portion of the lawn is now meadow. This natural area has attractive little bluestem grass and native winterberry and blueberry shrubs.



Front meadow by Route 25

### EAST MEADOW-2.5 Acres

This old field/shrubland habitat consisting of native little bluestem grasses and native goldenrods along with a few native blueberry shrubs and native red cedar trees is an ecosystem that is critical habitat for a number of declining birds and small mammals and for that reason deserves special protection. Old field/shrubland must be managed by annual or bi-annual brush hogging to prevent it from succeeding to forest and to prevent invasive shrubs now in the east meadow from taking over the remaining open field.



Native little bluestem grass in east meadow

### WEST MEADOW/WETLAND-1 Acre

Unlike the east meadow that has native grasses, this 1 acre meadow is mostly populated with native goldenrod. About half of this meadow, or 0.50 acres, is a wetland, although soil surveys do not show it as such. The grove of two dozen or more native pussy willows in the west end of the meadow along with the tussock sedge and sensitive fern in the south-central part of this meadow all indicate that it is a wetland.

The southern edge of the open wetland borders the neighboring property which has recently been clear cut of trees, shrubs and groundcover. Water from the wetland flows in a tributary and then into North Farrar Brook in the center of the property. Since this tributary is adjacent to a steep, clear cut slope, it should be monitored to see if erosion causes any silt and sediments to enter the tributary and make their way into North Farrar Brook. If this occurs, discussions should be had with the neighbor to consider replanting the clear cut area to prevent any further damage to the Center's property.



Clearing of steep slope along property line

#### HEMLOCK GROVE-1.0 Acre

Hemlocks grow along the Center's north-central boundary and extend south along both sides the North Farrar Brook (see Significant Trees and Ecological Communities Maps on pages 47 and 46).

#### POND-1.5 Acres

This man-made pond is used for fishing and for bird and wildlife observation and study. Most of the pond is vegetated which helps to protect water quality and helps to dissuade Canada geese which prefer open vistas in order to see predators. The shoreline closest to the Center's building is open for access and viewing. Native shrubs and herbs along the shoreline include winterberry and silky dogwood shrubs, umbrella sedge, tussock sedge and ironweed. Many native tree species, mostly sapling and medium-sized in height, also grow along the shoreline including flowering dogwood, crabapple, red maple, elm, gray birch, hemlock, pussy willow, black cherry and black birch trees. The southside of the pond is not vegetated and is sloping from the neighbor's yard allowing stormwater to runoff in sheets into the



pond, causing silt and other pollutants to enter the pond. This can be simply fixed by laying a few water bars (logs) across (perpendicular to) the eroding area.

#### SHRUBLAND BORDER-1 Acre

The north, northwest, southwest and south boundaries of the Center are vegetated with shrubs and trees that form a nearly continuous thicket around the property line.

#### RIPARIAN/BROOK-0.50 Acres

North Farrar Brook may have been diverted to its present course, but it appears to be a pristine and very natural riparian ecosystem with a rocky substrate, vegetated banks and a full canopy shading the brook. This riparian area has natural vegetation consisting of mature hemlock trees, red oaks, sugar maples, black and yellow birch, basswood and white ash trees. The clump of three yellow birch at the southern end of the brook is interesting as they are a northern tree species not often found in southern Connecticut. As the brook bends along the southern property line, many native shrubs not found elsewhere on the property appear. Witch hazel, in fall bloom when photographed, and spicebush grow close to the water.



North Farrar Brook with natural vegetation

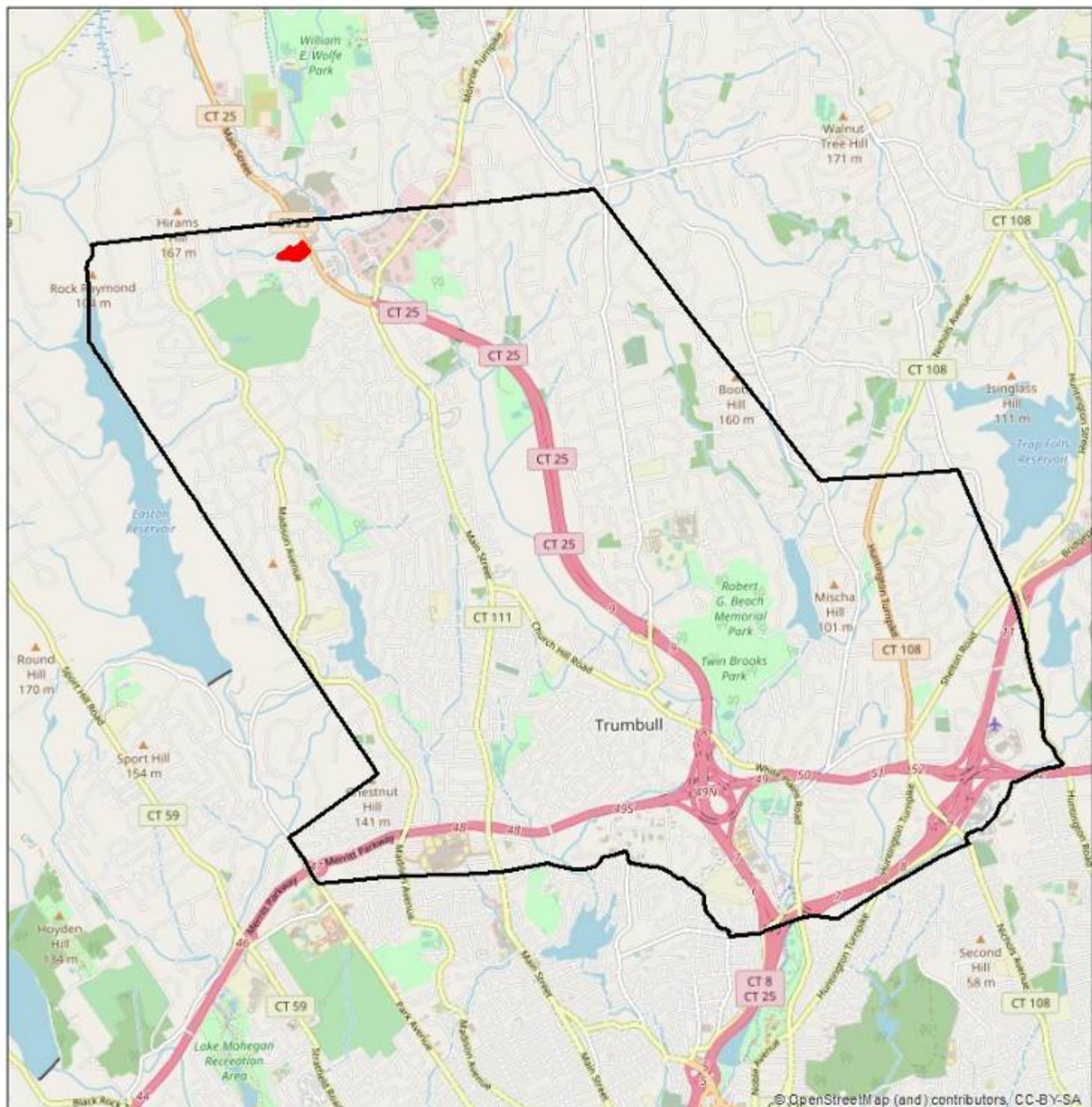
## THREATS:

- Invasive plants outcompeting native plants
- Deer browse
- Water/stormwater pollution and sedimentation from clearing by neighbor of steep slope along south boundary

## RECOMMENDATIONS:

- Remove invasive autumn olive, honeysuckle, barberry, buckthorn and multi-flora rose shrubs, Bradford pear and ailanthus trees, Japanese spirea and mugwort from meadows, streambanks and pond shoreline
- Trim invasive burning bush and forsythia hedges to prevent them from spreading
- Cut bittersweet and wisteria vines in trees
- Thin non-native spruce trees crowding out red cedar trees
- Control stormwater erosion and pollution by revegetating part of the cleared slope
- Maintain nature trails
- Add additional bluebird houses to meadow
- Add wildlife viewing areas
- Add educational signage

# Trumbull Nature & Arts Center Location Map



Nature Center Boundaries  
 Trumbull

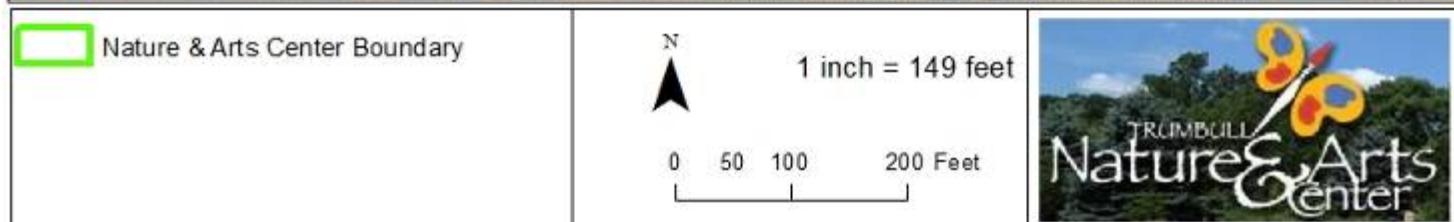
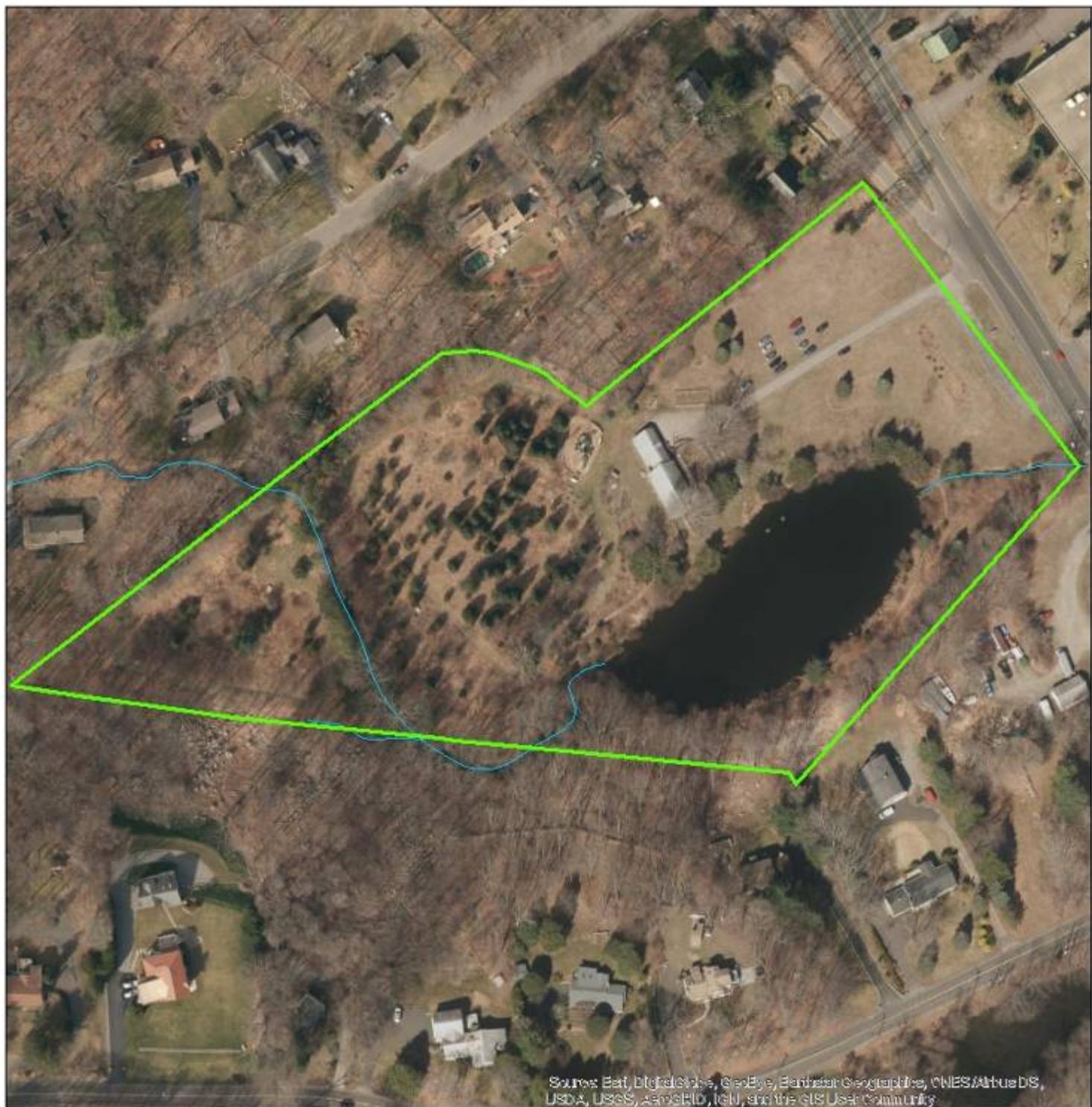


1 inch = 4,932 feet

0 0.5 1 2 Miles

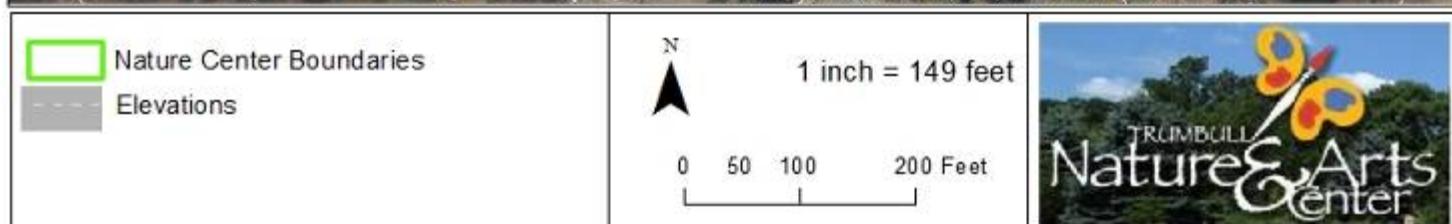
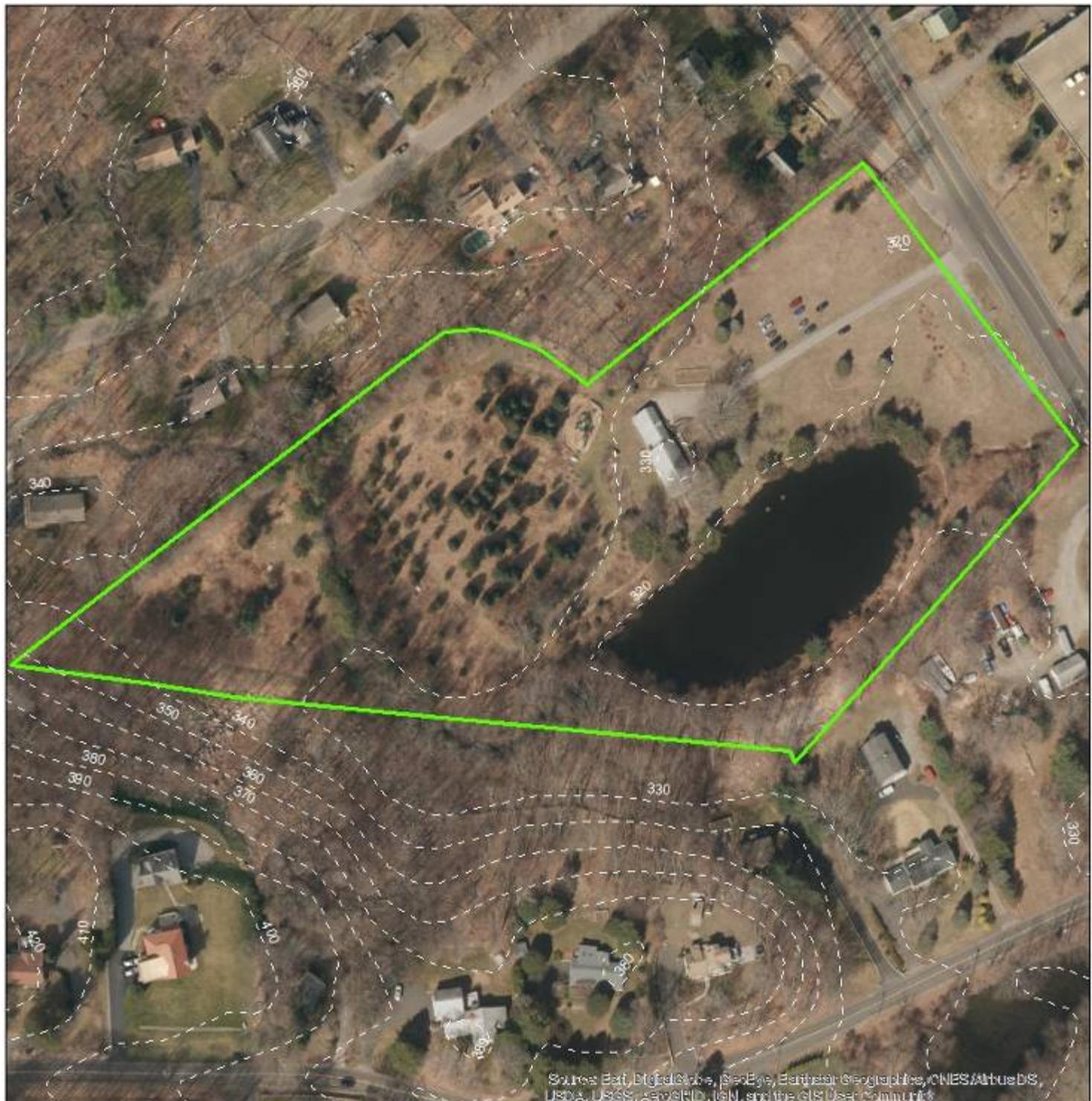


# Trumbull Nature & Arts Center Satellite Photograph Map



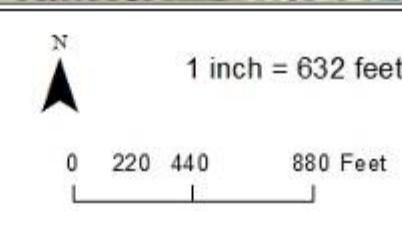
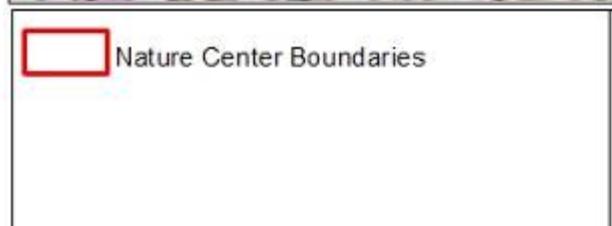
# Trumbull Nature & Arts Center

## Elevations Map



# Trumbull Nature & Arts Center

## Topographic Map



# Trumbull Nature & Arts Center Streams, Wetlands & Pond Map



1 inch = 149 feet

0 50 100 200 Feet

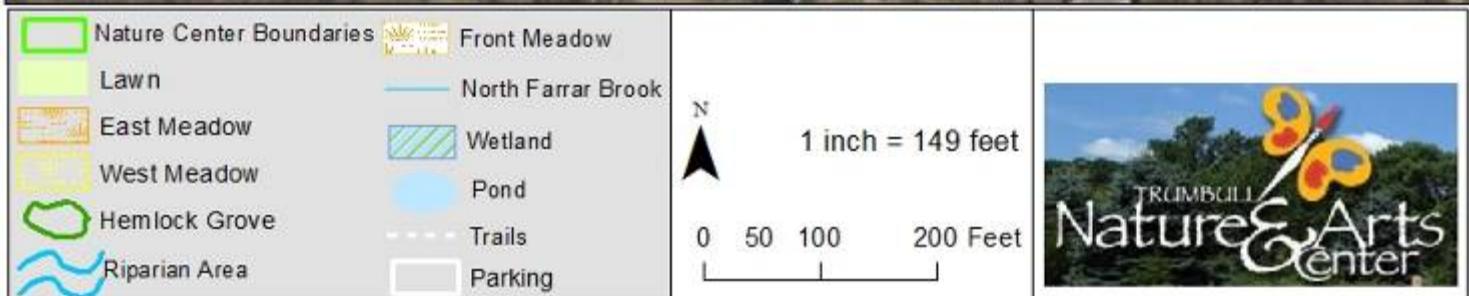


# Trumbull Nature & Arts Center

## Ecological Communities Map



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/AirbusDS, USDA, USGS, AerialTribe, IGN, and USGS User Community

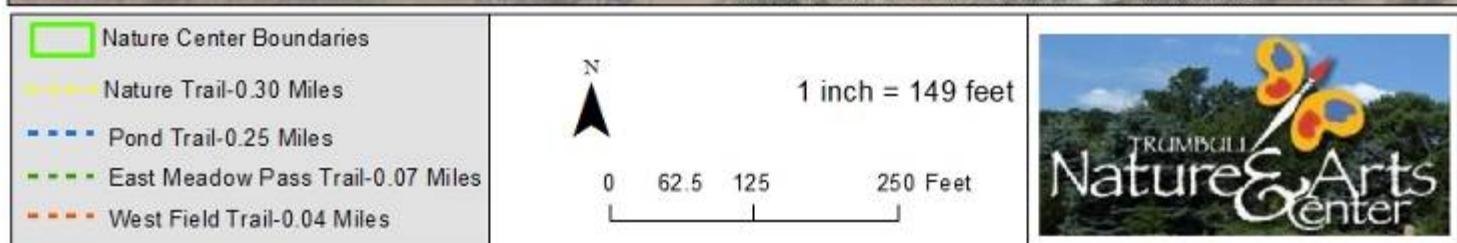


# Trumbull Nature & Arts Center

## Trails Map



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



PLANT INVENTORY October 30 and November 2, 2017 Field Surveys (more herbs, vines and grasses would be seen during spring and summer).

Trees:

*Acer platanoides* (Norway maple)  
*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Ailanthus altissima* (tree of heaven)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Betula nigra* (river birch)  
*Betula populifolia* (gray birch)  
*Carya ovata* (shagbark hickory)  
*Cercis canadensis* (red bud)  
*Cornus florida* (flowering dogwood)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Juniperus virginiana* (red cedar)  
*Malus* spp. (crabapple)  
*Picea abies* (Norway spruce)  
*Picea glauca* (white spruce)  
*Pinus strobus* (white pine)  
*Platanus occidentalis* (American sycamore)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Salix* spp. (willow)  
*Tilia Americana* (basswood)  
*Tsuga canadensis* (eastern hemlock)  
*Ulmus americana* (American elm)

Shrubs:

*Alnus serrulata* (smooth alder)  
*Berberis thunbergii* (Japanese barberry)  
*Cornus amomum* (silky dogwood)  
*Cornus sericea* (red osier dogwood)  
*Elaeagnus umbellata* (autumn olive)  
*Euonymus alatus* (winged euonymus)  
*Euonymus atropurpurea* (wahoo)  
*Hamamelis virginiana* (witch hazel)  
*Ilex verticillata* (winterberry)  
*Lindera benzoin* (spicebush)  
*Lonicera morrowii* (Morrow's honeysuckle)  
*Rhamnus* spp. (buckthorn)  
*Rosa multiflora* (multiflora rose)  
*Rubus flagellaris* (dewberry)  
*Rubus phoenicolasius* (wineberry)  
*Rubus* spp. (blackberry)  
*Sorbia sorbifolia* (false spirea)  
*Spiraea alba* (meadowsweet)

*Spiraea japonica* (Japanese spiraea)  
*Vaccinium angustifolium* (low-bush blueberry)  
*Vaccinium corymbosum* (high-bush blueberry)  
*Viburnum dentatum* (arrowwood viburnum)

Vines:

*Ampelopsis brevipedunculata* (porcelain berry)  
*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)  
*Wisteria floribunda* (Japanese wisteria)

Herbs:

*Achillea millefolium* (yarrow)  
*Alliaria petiolata* (garlic mustard)  
*Artemisia vulgaris* (common mugwort)  
*Asclepias syriaca* (common milkweed)  
*Asclepias tuberosa* (orange milkweed)  
*Asclepias verticillata* (whorled, horsetail milkweed)  
*Aster divaricatus* (white wood aster)  
*Aster ericoides* (many flowered aster)  
*Clinopodium vulgare* (wild basil)  
*Daucus carota* (Queen Anne's lace)  
*Euthamia graminifolia* (grass-leaved goldenrod)  
*Fragaria virginiana* (wild strawberry)  
*Galium aparine* (cleavers)  
*Monarda fistulosa* (wild bergamot)  
*Monotropa uniflora* (Indian pipe)  
*Polygonum pensylvanicum* (smartweed)  
*Potentilla indica* (Indian strawberry)  
*Pycnanthemum virginium* (mountain mint)  
*Ranunculus acris* (common buttercup)  
*Solanum carolinense* (horse nettle)  
*Solidago Canadensis* (Canada goldenrod)  
*Symphotrichum lateriflorum* (side-flowering/calico aster)  
*Urtica dioica* (stinging nettle)

Sedges:

*Carex stricta* (tussock sedge)

Grasses:

*Microstegium vimineum* (stilt grass)  
*Panicum clandestinum* (deer-tongue grass)  
*Schizachyrium scoparium* (little bluestem)

Ferns and allies:

*Onoclea sensibilis* (sensitive fern)  
*Polystichum acrostichoides* (Christmas fern)

Fish (observations of fishermen November 2, 2017)

*Esox americanus*, pickerel  
*Lepomis gibbosus*, pumpkinseed  
*Lepomis macrochirus*, bluegill  
*Micropterus salmoides*, largemouth bass  
*Perca flavescens*, yellow perch

April 6, April 8 2020 Field Surveys:

**CONSERVATION VALUES** include: Forests with mature trees several 36 inches in diameter and one 50 inches in diameter, evergreen groves, hiking trails, wetlands and vernal pools, two ponds, riparian zones, floodplain forests, streams and seeps, sections of Chubb Brook, shrubland, meadows and grasslands, greenways connecting Aquarion properties and Tashua Recreation Area, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for nature, history and culture study, antique farm equipment, root cellar and other farm buildings and scenic vistas.

The 35.61-acre Old Tashua Tree Farm is located in the northwest corner of Trumbull and is owned by the Town of Trumbull (see Location Map page 296). Chub Brook runs through the center of the property, flowing east to west and into the Easton Reservoir located just 0.15 miles to the west (see Streams and Wetlands Map page 300). 13 acres, approximately 36% of the parcel, are classified as wetlands. Two man-made ponds are found in the south-eastern corner of the parcel along with a pump house (see Streams & Wetland Soils Map page 300). Elevations drop from 450 feet above sea level in the northeast section to 350 feet at the western section (see Elevations Map page 298 and Topographic Map page 299) Parking is available for a few cars on an old asphalt driveway across from the north the end of Horse Tavern Road.



Chubb Brook surrounded by hemlocks



Pond surrounded by red maple and yellow birch trees at south entrance at Fuller and Horse Tavern Road.

The Tashua Knolls Recreation Area is located 0.30 miles to the northeast. 31 acres of protected open space owned by Aquarion Water Company lie directly to the east of the property; another approximately 153 acres of protected open space also owned by Aquarion lies directly to the west, abutting the Easton Reservoir (see Surrounding Open Space Map page 302). With permission from Aquarion Water Company, trails can run all the way from the town's Tashua Knolls

Recreation Area to the Easton Reservoir, creating a 1.5 mile trail system. Within Old Tashua Tree Farm, a trail can loop from parking at the end of Horse Tavern Road around the pond to the root cellar and then to the old field past the farm equipment to the shed where trees were sold and then west to another trail entrance at Old Tree Farm Lane. The shed could be stabilized and the antique farm equipment could be housed there, making an interesting destination for visitors (see Future Trail Map page 303).

The parcel is mostly wooded except for approximately 5 acres of old field that was most recently hayed or farmed, as indicated by the many tractors and haying equipment found there (see Satellite Photograph Map page 297, Plant and Animal Inventory page 305).

Christmas trees, including spruce, white pine and hemlocks trees, remain from the days when this was a Tree Farm and cover approximately 5 acres in the center of the property. Trees were sold from a shed still standing along the northern property line.

A root cellar is 150 feet north of the pond along an old trail. A home stood directly across from Horse Tavern Road at the southern property line and is shown on topographic maps. The home's asphalt driveway/parking lot remains just east of where the house stood. This could be used as a parking area for hikers if trails are developed.



7 hay tractors, manure spreader, sickle bar mower



Root cellar

## OLD TASHUA TREE FARM

Trash should be removed along the eastern boundary; graffiti on a rock west of the pond should be covered up with paint.

### ECOLOGICAL COMMUNITIES:

Old Tashua Tree Farm has the following ecological communities (see Ecological Communities Map page 301 and Plant Inventory page 305):

Red Maple Swamp	17 acres
Oak-Hickory Forest	6 acres
Old Field Habitat	5 acres
Tree Plantation	5 acres
Ponds	2 acres

### RED MAPLE SWAMP: 17 acres

The red maple swamp community encompasses the Chub Brook and the two tributaries that feed the Chub Brook from the northeastern and north-central portions of the property. 13 acres of the parcel are classified as hydric, or wetland soils, based on the USDA soil survey, but the red maple swamp appears to extend beyond the delineated wetlands. Red maple trees are the dominant tree. Other trees include those commonly found in wetlands: tulip, shagbark hickory, ash, elm, swamp white oak, yellow birch, sugar maple and red oak. The tallest trees are found along the northeastern boundary where a few white oaks reach 36 inches in diameter. Understory trees are mainly beech saplings and the absence of other understory trees is an indication of heavy deer browsing (beech are very deer-resistant). The dominant shrub is spicebush, which is also somewhat deer resistant, along with



Dead red cedar grove

occasional winterberry shrubs. Invasive barberry grows in the western red swamp and is less common in the northeastern red swamp. Skunk cabbage and tussock sedge grow along with the barberry in the western red maple swamp, indicating the ground is wetter for a longer period throughout the year.

**OAK-HICKORY FOREST: 6 acres**

The northwest section of the property is higher, drier, and sloped. White, red and black oak trees grow here along with mockernut hickory; one very large white oak is 50 inches in diameter. The shrub layer and ground layer are very sparse. There are 2 deer stands here, most likely belonging to the neighbors on Old Tree Farm Lane. The south western section of the property is littered with dozens of dead, downed red cedar trees. Stonewalls indicate that this was an open field in which red cedars grew until recently being shaded out by other trees.

**OLD FIELD HABITAT: 5 acres**

These 5 acres were until recently hay fields, as shown on topographic maps and indicated by the many tractors and hay raking equipment found here. The fields have little bluestem and brome grasses along with Canada goldenrod, dogbane (Indian hemp), common milkweed and horse nettle. Along the eastern edge in wetter soil by the stream where the canopy is open to sunlight, many invasive plants grow including autumn olive, barberry and multi-flora rose bushes and bittersweet vines. A row of white pine lines the northern edge of the field and divides it from the wetlands to the north. The old shed that was used to sell Christmas trees still stands along the western edge of the field. Scattered conifers are growing up in the field. Since field/old field habitat is disappearing in the region, this community could be brush-hogged to restore the meadow habitat. By brush hogging the meadow once every year or two, native grasses and wildflowers will be allowed to return. Bittersweet vines grow here, and elsewhere on the property, should be cut to allow trees to grow and the invasive shrubs should be cut and treated. Stabilizing or restoring the shed and storing the seven or more tractors and hay equipment in the shed to preserve them would give visitors a sense of the history and culture of the area.



Tractors and haying equipment



Overgrown, old field habitat

#### TREE PLANTATION: 5 acres

This area had until recently been a Christmas tree farm. White pine, white spruce, Norway spruce and hemlock trees, along with other conifers, grow here. The plantation is very dense-many deer were seen resting here during the day taking advantage of the evergreen cover. Thinning some of the trees may allow the remaining trees to survive. Evergreens are rare in the region with red cedar and hemlock being the only native evergreens. They provide valuable cover for birds and other wildlife, particularly in the winter, so restoring the plantation will benefit biodiversity. The evergreens are also an interesting place for people to hike.



Christmas trees in old field



Shed where Christmas trees were sold off Old Tree Farm Lane

## OLD TASHUA TREE FARM

### PONDS: 2 acres

Two man-made ponds are fed from a slow moving stream that flows from another pond approximately 400 feet south of the property. A pump house is located at the northwestern shore of the main pond; a diving board remains from when this was a swimming hole for the farm and neighbors. The pond is surrounded by natural vegetation including red maple and yellow and grey birch trees and witch hazel shrubs and is ideal habitat for wood ducks, which were observed there on April 6, 2019.



Inlet to pond flowing from south from under Fuller Road

Just west of the ponds is a conifer stand on the steeply sloped southern stream bank of Chub Brook. This stand may have been planted by the owners of the former farmhouse which was located nearby, across from Horse Tavern Road. The stand includes live white pines and hemlocks and dead spruce trees.

### AQUARIION PROPERTY

Although not part of the Old Tashua Tree Farm, the 31-acre Aquarion property to the east is an unfragmented continuation of the habitats of Old Tashua Tree Farm and deserves mentioning. The trees are older and larger, averaging 30 to 36 inches in diameter and include red and black oaks, pignut hickory, sugar maple, beech, tulips and ash trees. The understory trees include hophornbeam



Vernal pool on Aquarion property 200 feet from Old Tashua Tree Farm's eastern boundary

and ironwood; the shrub layer is sparse due to deer browse. A vernal pool lies just east of the Old Tashua Tree Farm's eastern boundary. It may be possible to get permission from Aquarion to have hiking trails on their property that would connect to Old Tashua Tree Farm trails, which would make an interesting, attractive destination for the public. Old farm roads and deer paths currently exist throughout both properties. The trails can be formalized, blazed and maintained for hikers and the old parking lot at the end of Horse Tavern Road could be made into a parking lot for the public.



False hellebore



Yellow birch



Shinleaf

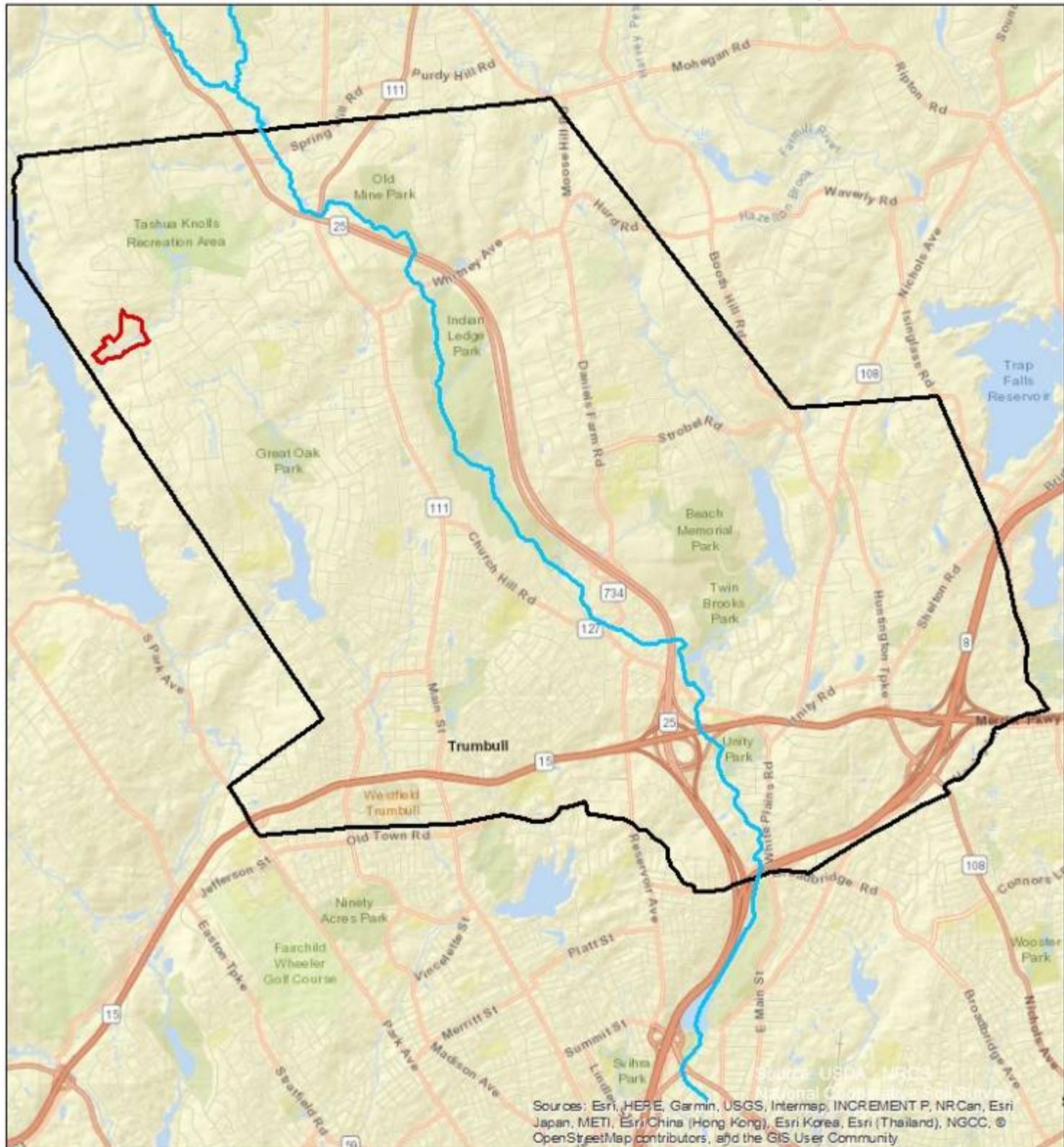


Partridgeberry

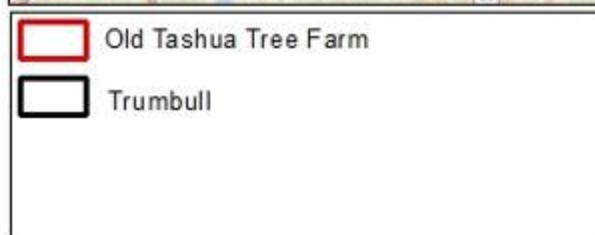


Wintergreen

# Old Tashua Tree Farm Location Map



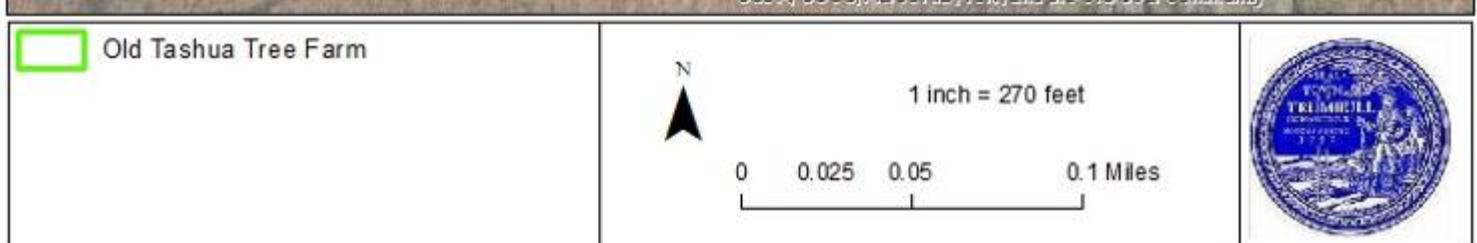
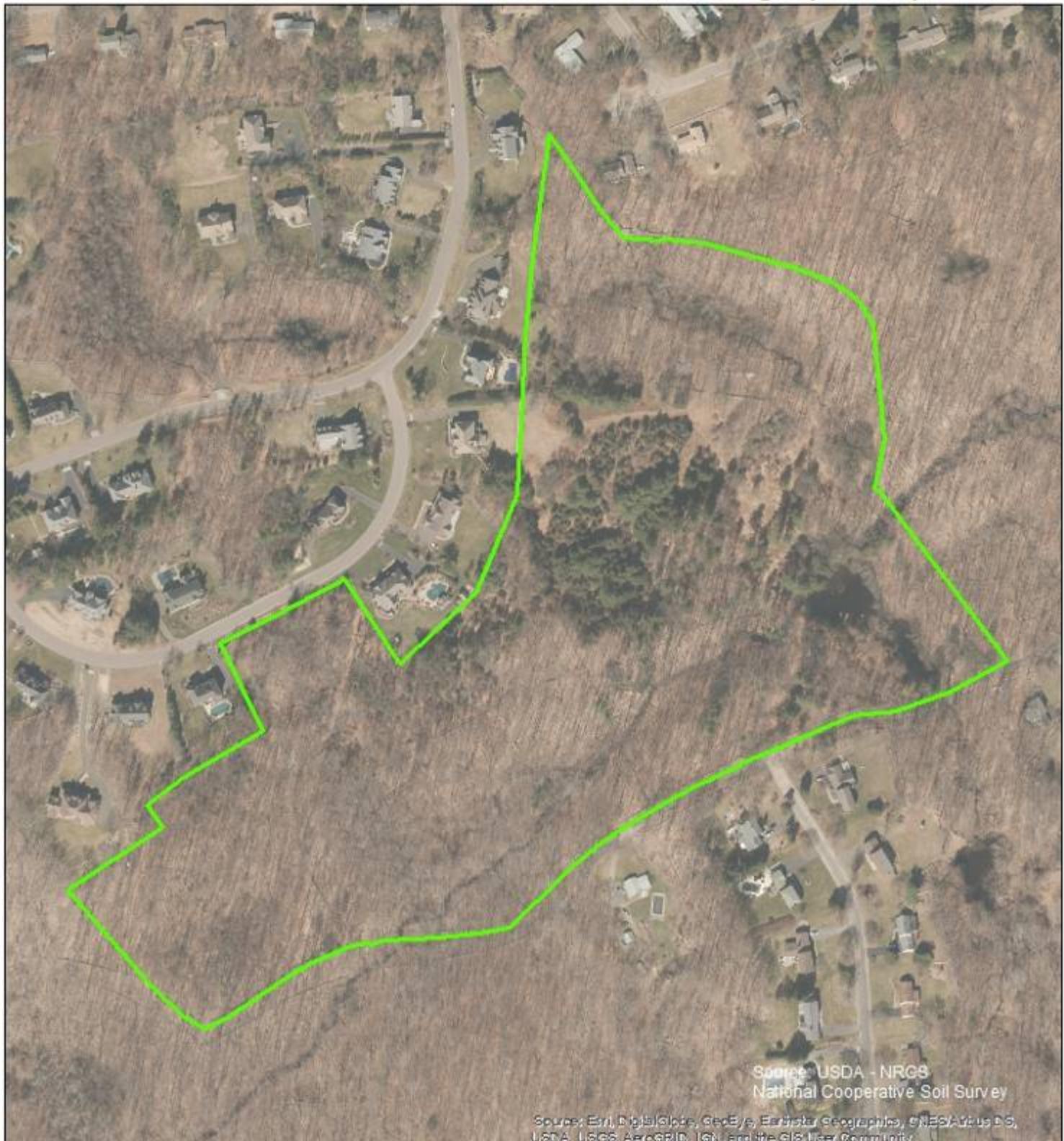
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community



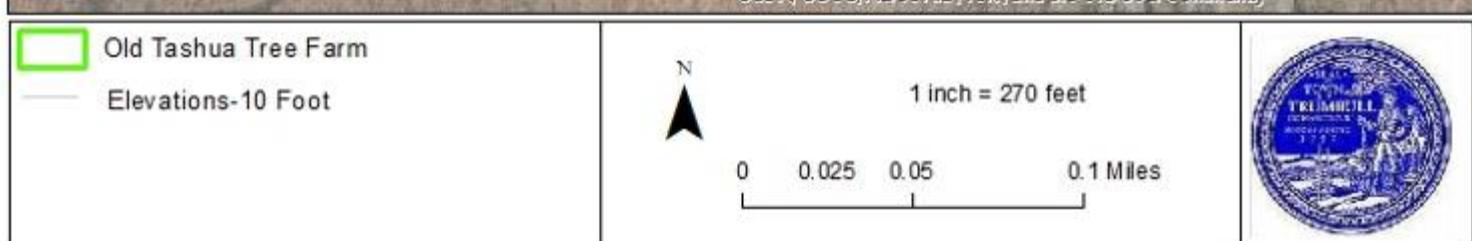
1 inch = 4,537 feet  
0 0.5 1 2 Miles



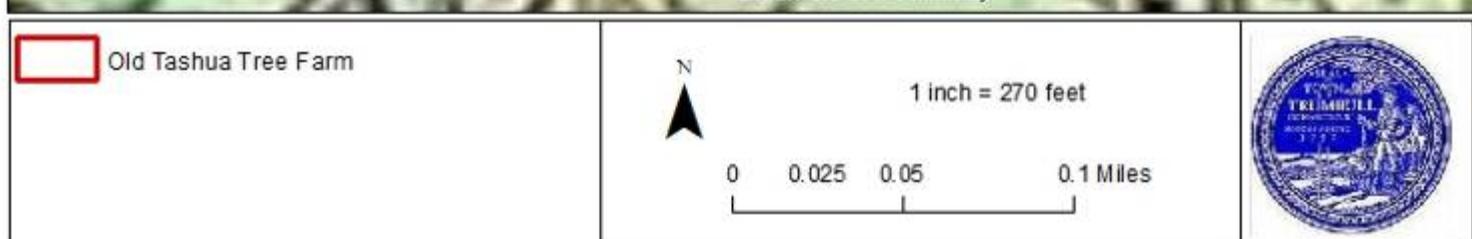
# Old Tashua Tree Farm Satellite Photograph Map



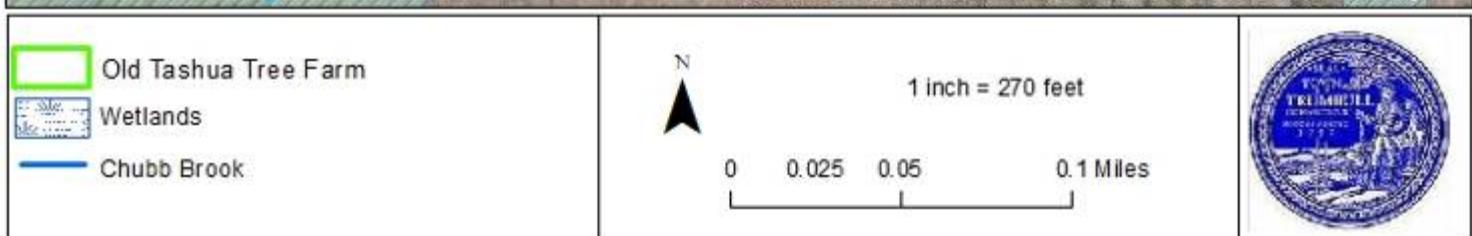
# Old Tashua Tree Farm Elevations Map



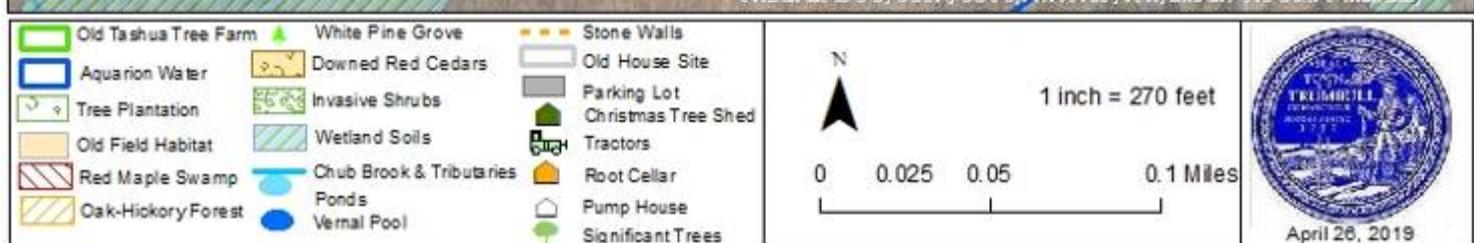
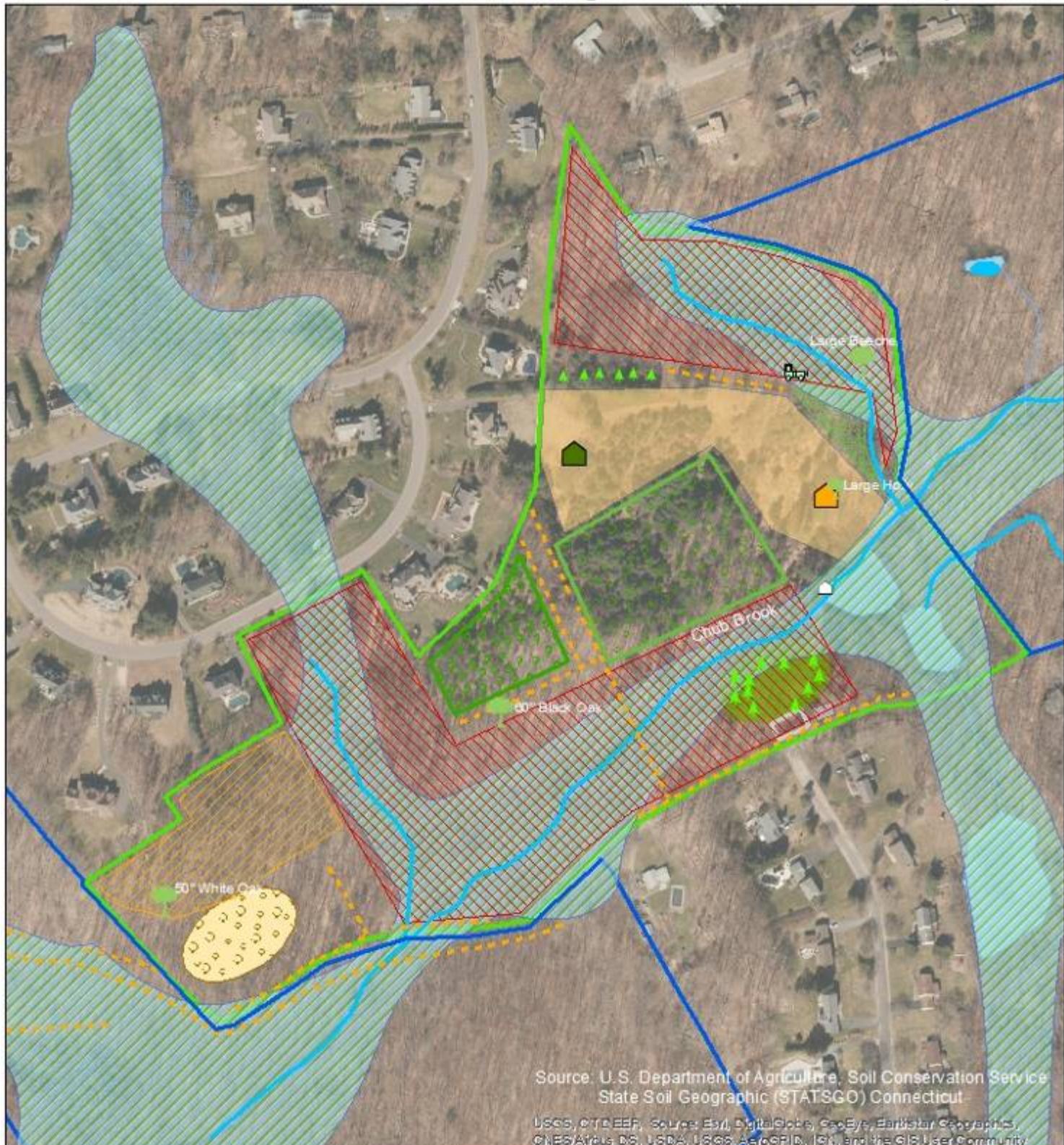
# Old Tashua Tree Farm Topographic Map



# Old Tashua Tree Farm Streams & Wetlands Map



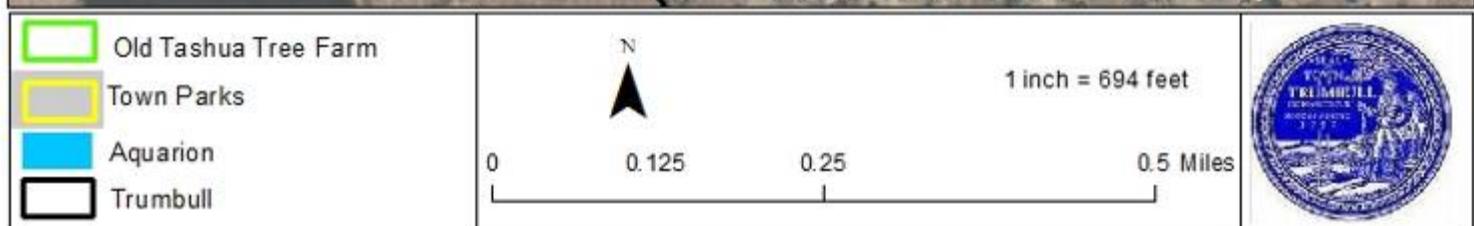
# Old Tashua Tree Farm Ecological Communities Map



# Old Tashua Tree Farm Surrounding Open Space Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# Old Tashua Tree Farm Future Trail Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



THREATS:

- Invasive barberry, autumn olive, multi flora rose and bittersweet vines
- Diseases/woolly adelgid on hemlocks
- Deer browse is heavy
- Litter

RECOMMENDATIONS:

- Formalize informal trails by adding blazes and signage
- Link trails to Aquarion properties/Easton Reservoir and to Tashua Recreation Area with permission from Aquarion
- Stabilize shed and store antique farm equipment/add interpretive signs for education
- Maintain meadows by brush hogging once every two years
- Restore evergreen plantation by thinning some trees
- Monitor/treat hemlock trees
- Monitor/remove invasive plants including barberry, autumn olive, multi-flora rose and bittersweet vines
- Add wood duck boxes around pond, bluebird houses in fields
- Clean up trash along eastern boundary, remove/paint over graffiti on rock west of pond

## OLD TASHUA TREE FARM

### PLANT & ANIMAL INVENTORY APRIL 6, APRIL 8, 2019 Field Surveys:

#### **Trees:**

*Acer platanoides* (Norway maple)  
*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Betula populifolia* (gray birch)  
*Carpinus caroliniana* (ironwood)  
*Carya ovata* (shagbark hickory)  
*Carya tomentosa* (mockernut hickory)  
*Cornus florida* (flowering dogwood)  
*Crataegus* sp. (hawthorn)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Juniperus virginiana* (red cedar)  
*Liriodendron tulipifera* (tulip tree)  
*Ostrya virginiana* (hophornbeam)  
*Picea abies* (Norway spruce)  
*Picea glauca* (white spruce)  
*Pinus resinosa* (red pine)  
*Pinus strobus* (white pine)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus bicolor* (swamp white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Robinia pseudoacacia* (black locust)  
*Tsuga canadensis* (eastern hemlock)  
*Ulmus americana* (American elm)

#### **Shrubs:**

*Alnus serrulata* (smooth [common] alder)  
*Berberis thunbergii* (Japanese barberry)  
*Chimaphila maculata* (pipsissewa, spotted/striped wintergreen)  
*Elaeagnus umbellata* (autumn olive)  
*Hamamelis virginiana* (witch hazel)  
*Ilex verticillata* (winterberry)  
*Ligustrum* sp. (privet)  
*Lindera benzoin* (spicebush)  
*Lonicera morrowii* (Morrow's honeysuckle)  
*Rhododendron maximum* (rhododendron)  
*Rhododendron periclymenoides* (pinxter)  
*Rosa multiflora* (multiflora rose)  
*Rubus flagellaris* (dewberry)  
*Rubus phoenicolasius* (wineberry)  
*Rubus* spp. (blackberry)  
*Vaccinium corymbosum* (high-bush blueberry)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Clematis terniflora* (sweet autumn clematis)  
*Euonymus fortunei* (climbing euonymus, wintercreeper)  
*Mitchella repens* (partridge berry)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs: (observations were in early April 2019, more plants would be expected later in the year)**

*Alliaria petiolata* (garlic mustard)  
*Allium canadense* (wild onion)  
*Apocynum androsaemifolium* (dogbane, Indian hemp)  
*Artemisia vulgaris* (common mugwort)  
*Arctium minus* (burdock)  
*Asclepias syriaca* (common milkweed)  
*Aster divaricatus* (white wood aster)  
*Barbarea vulgaris* (winter cress/yellow rocket)  
*Chimaphila maculata* (spotted wintergreen)  
*Daucus carota* (Queen Anne's lace)  
*Impatiens capensis* (orange jewelweed)  
*Mitchella repens* (partridgeberry)  
*Potentilla simplex* (common cinquefoil)  
*Pyrola elliptica* (shinleaf)  
*Solanum carolinense* (horse nettle)  
*Solidago Canadensis* (Canada goldenrod)  
*Symplocarpus foetidus* (skunk cabbage)  
*Varatrum viride* (false hellebore)

**Sedges & Rushes:**

*Carex ovales* type (sedge)  
*Carex pensylvanica* (Pennsylvania sedge)  
*Carex platyphylla* (broad-leaved sedge)  
*Carex stricta* (tussock sedge)

**Grasses:**

*Bromus inermis* (brome grass)  
*Microstegium vimineum* (stilt grass)  
*Schizachyrium scoparium* (little bluestem)

**Ferns and allies:**

*Polystichum acrostichoides* (Christmas fern)

**Mammals-observed at property or nearby:**

*Lynx rufus* (bobcat)  
*Canis latrans* (eastern coyote)  
*Odocoileus virginianus* (white-tailed deer)  
*Mustela vision* (mink)

**Birds- observed April 6, 8 2019:**

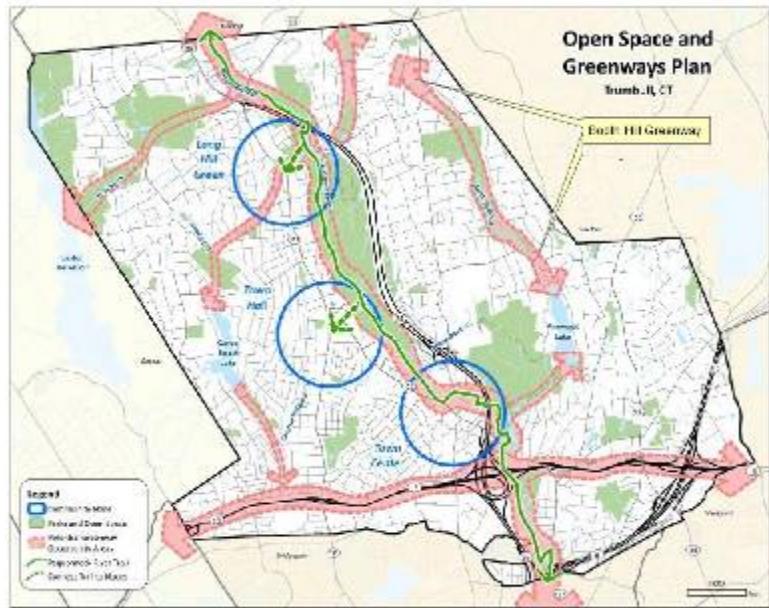
Aix sponsa (wood duck)  
Meleagris gallopavo (wild turkey)  
Buteo lineatus (red-shouldered hawk)  
Strix varia (barred owl)  
Picoides pubescens (downy woodpecker)  
Sayornis phoebe (eastern phoebe)  
Sialia sialis (eastern bluebird)  
Regulus calendula (ruby-crowned kinglet)

July 16, 17, August 28, 2019 Field Surveys

**CONSERVATION VALUES** include: Forests including mature interior forests, extensive hiking trails, wetlands and vernal pools, emergent wetlands, riparian zones, floodplain forests, streams and seeps, Booth Hill Brook, greenway connecting fourteen parcels, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study by nearby schools and scenic vistas.

### REGIONAL SETTING:

The Booth Hill Greenway, identified on the Town of Trumbull Plan of Conservation & Development map shown to the right, is approximately 155 acres (including 55 acres of woods privately owned by Gate of Heaven Cemetery). It is comprised of 14 town-owned parcels classified as 'Municipal Land Residential' on the Town's database and 'Municipal Private Open Space' on state databases (see Greenway Parcel Satellite and Street Maps, pages 325, 326). The Town acquired the parcels in the 1960's when the land was subdivided.



Trumbull Plan of Conservation & Development Map

Historic homes are found at both ends of the greenway. The Theoplis Nichols house at Daniels Farm Road was built in 1740; the George Cramer House at Stroebel Road was built in 1851. Several schools are within walking distance of the Greenway and students could use the Greenway for science and nature observation. The Daniels Farm Elementary School is 0.22 miles to the west; Trumbull High School, Hillcrest Middle School and the Agriscience and Biotechnology Center are located 0.40 miles to the west.

At least 400 single family homes, most on .8 -acre lots built in the 1960's and 1970's, lie in the Booth Hill Brook watershed between Daniels Farm Road and Booth Hill Road (see Watershed Map page 330). At least 13 streets surround the greenway, emptying stormwater

from street catch basin, through culverts, into Booth Hill Brook (see Stormwater Issues photographs page 320, 321). Several locations along streams and culverts are recommended sites for stormwater improvements in the Pequonnock River Watershed Based Management Plan (see Potential Retrofit, Restoration Projects Map page 336).

The Greenway can be extended and protected from development by protecting part of or all of the 55 acres of woods owned by Gate of Heaven Cemetery, listed as an Open Space Priority Parcel in the Pequonnock River Watershed Based Plan.

#### PROPERTY DESCRIPTION:

The Booth Hill Brook watershed contains 635 acres. The Booth Hill Brook begins at the Greenway's north boundary and flows south for 2.1 miles, emptying into Pinewood Lake and then Twin Brooks Park (see Streams and Wetland Soils Map page 331). Booth Hill rises 520 feet 0.3 miles east of the greenway.

Elevations within the greenway peak in the north at 470 feet above sea level, dropping to 220 feet at the greenway's southern

boundary. Elevations are steep along the east side of Booth Hill Brook and are flatter and lower west of the Brook, resulting in wetland conditions west of the Brook and drier, upland conditions east of the Brook (see Elevation Map and Topographic Map, pages 328, 329).

The Greenway is entirely wooded with mature, mixed deciduous trees, wooded wetlands, emergent (open) wetlands and riparian (aquatic and terrestrial) habitat on both sides of the Brook (see Satellite Photograph Map page 327 and Plant Inventory, page 338). The western side of the Greenway, which is slightly lower in elevation, has wetter soils and can be classified as a red maple swamp with red maple and tulip trees, spicebush shrubs and skunk cabbage; the eastern section is slightly drier and can be classified as an oak-hickory forest with oaks and hickories, maple-leaf viburnum and blueberry shrubs and Pennsylvania sedge (see Ecological Communities Map page 332).



Sewer trail entrance at Old Field Road

The Greenway provides tremendous recreational opportunities to the thousands of residents living in the community surrounding it. A nearly one-mile, well maintained gravel trail runs above the sewer line from Old Field Road to the south all the way to the Greenway's northeastern boundary (see Hiking Trail photographs page 317-319 and Hiking Trails and Trail Entrance Map page 334).

From there a 0.25 trail segment runs to and from the cul de sacs at Marathon Road and Ranch

Drive at the Greenway's northwest boundary. Two other trail segments totaling 0.10 miles connect the main trail to and from the cul de sacs at Firehouse Road and Towerview Drive along the Greenway's western boundary. Two smaller trail segments totaling 0.25 miles run off Shelter Rock Road at the Greenway's southeastern boundary. Other opportunities exist for trail entrances, if desired. Signs with trail information and trail maps indicating that these trails are open to the public would encourage greater use. There is ample parking on both sides of Old Field Road for hikers to park their cars.

A pair of benches lies along the Brook 1,000 feet north of the Old Field Road entrance and is an inviting destination. The trails' vegetation is mostly non-native mugwort along with Queen Anne's lace, red clover, grape and goldenrod but the mugwort is currently kept in check and the trail is made passable by frequent mowing.



Pair of benches alongside Brook

## ECOLOGICAL COMMUNITIES:

The Booth Hill Greenway has the following ecological communities (see Ecological Communities Map page 332 and Plant Inventory page 338):

Mixed Deciduous Woods 60 acres

Red Maple Swamp 50 acres

Oak-Hickory Woods 20 acres

Riparian Habitat 20 acres

Open Wetland 7 acres

## MIXED DECIDUOUS WOODS: 60 acres

This is the largest ecological community in the Greenway and is found north of Old Field Road on the higher elevations east of the Brook and in the far northwestern section of the Greenway. It consists of a variety of large, mature trees and shrubs at higher and therefore drier elevations than those found in the Greenway's southern third or along the Brook. All three forest types that are found in the Greenway--red maple swamp, oak-hickory forest and maple-beech forest--overlap here, along with tulip and yellow and black birches. Shrubs are chiefly witch hazel and low bush blueberry while ground cover plants include hay scented fern, Canada mayflower, partridgeberry, princess pine, dewberry and Solomon's seal. In the far northwestern third of the Greenway the mixed deciduous trees include red and black oak, shagbark and bitternut hickories, yellow and black birch, sugar and red maple and beech as well as a few hemlock and sassafras trees. Shrubs include those that grow in both wet (spicebush and clethra) and dry (low bush blueberry and maple-leaf and arrowwood viburnum) conditions. Hay scented and New York ferns are common. A sharp-shinned hawk was seen flying in these mature woods.

## RED MAPLE SWAMP: 50 acres

The southern third of the Greenway from Shelter Rock Road to Old Field Road and then continuing north along the wetter western side of the Brook is a red maple swamp. Trees here are medium-sized-- approximately 20 inch in diameter--red maple and tulip trees along with fewer numbers of white oak and sugar maple; the understory has shade-tolerant trees including sugar maple, beech and ironwood. Shrubs include native witch hazel and non-native multi-flora rose and burning bush. Ground cover includes Canada and rough-leaf goldenrod, sensitive, lady and cinnamon fern, smart weed, enchanter's nightshade, deer tongue grass, pilewort, common milkweed, white wood aster, hog peanut, blackberry and bittersweet vine.

The Greenway's western boundary at Clarion Place is marked by a historic stone wall which runs north to south. Elevations climb from 330 feet above sea level at the Brook to 390 feet. The relative steepness of this lot has created deep gullies from storm water culverts (see photographs page 320). Red maple trees, spicebush shrubs and Jack in the pulpit indicate that this slope has very wet soil.

The red maple swamp continues north of Old Field Road, west of the Brook. These woods also include yellow birch and tulip trees. In drier spots mockernut hickory and red oak grow. An 18 inch diameter hemlock also grows here and does not show



Red maples, tulips and spicebush along Brook



Historic stone wall along west boundary at Clarion Place



Vernal pool just north of Old Field Road

any signs of wooly adelgid infestation. Shrubs include spicebush and clethra (sweet pepperbush); ground cover is made up of skunk cabbage and tussock sedge. A small vernal pool is located just across the Brook near the entrance at Old Field Road.

### OAK-HICKORY WOODS: 20 acres

Vegetation shifts from the red maple-tulip forest found at lower, wetter elevations in the southern section of the Greenway to an oak-hickory forest typical of drier soil conditions just north of Brookbend Road along the east side of the Brook. This 4-acre parcel has a canopy of black, red and white oak and pignut hickory with an understory of sugar maple, yellow birch, black



birch and beech. The shrub layer is no longer dominated by spicebush but instead has witch hazel, maple-leaf viburnum, alternate leaf dogwood and low bush blueberry shrubs. The ground layer is also quite different with hay scented and New York fern groves, beech drops, Indian pipe, Canada mayflower, partridgeberry, wintergreen, princess pine, Indian cucumber and various sedges including seersucker, broad leaf and Pennsylvania sedge. The shrub layer is sparse, giving this area open vistas that make it an attractive hiking place.

A grove of large tulip trees and five large white pines is found along the west side of the Brook here. White pines, though native, are unusual for southern Connecticut and therefore these have most likely been planted.

Drier upland with hay-scented ferns

### RIPARIAN HABITAT: 20 acres

The habitat along both sides of the Booth Hill Brook can be classified as riparian habitat and is made up of three overlapping habitats--aquatic, wetland and terrestrial. These

overlapping habitats are especially rich in biodiversity because they include not only aquatic and forest-dwelling species but also those species that can only live in this particular habitat combination of woods, wetlands and streams. The deep, damp soils create rich insect and amphibian breeding habitats, and these species become prey for birds such as red-shouldered hawk and barred owl, for mammals such as mink and weasel, and for reptiles such as snakes and wood turtles. The continuous ribbon of riparian habitat along the Brook provides excellent cover and foraging for flocking birds during winter and wildlife travel and migration corridors year round by connecting large forest blocks to other forests. Because of development and fragmentation, these habitats are increasingly rare in the region. The soils, plants and trees along the Brook also protect the water quality of the streams and wetlands, control erosion and decrease flooding by absorbing and filtering storm water. The milder temperature of the Brook and the seeps that feed it create a microclimate that thaws these soils earlier than soils in surrounding areas. This thaw makes insects available to other insects, birds and other wildlife earlier than in other areas, attracting wildlife during winter and early spring especially. Finally, the overhanging canopy growing in riparian habitats helps maintain cool waterways in the summer, which helps insects and other aquatic organisms that cannot live in warmer waters.

Tulip, red maple and shagbark hickory are the most common trees close to the Brook, along with black and yellow birch, ash, red oak, beech and sugar maple. A few large trees grow here including 3-foot in diameter red oak and sugar maple. The shrub layer is dominated by spicebush with a few blueberry shrubs. The ground cover includes jewelweed, Jack in the pulpit, Solomon's seal, trillium, lionsfoot, meadow rue baneberry, dewberry, trillium and royal, lady, sensitive, cinnamon and Christmas ferns. Very wet areas are dominated by skunk cabbage, clearweed, arrow leaf tear thumb and water pepper. Wood thrush, pee-wee and red eyed vireo were heard here in July, a good indication that this ribbon of mature, riparian forests is highly functioning.

The riparian habitat adjacent to the Brook north of Old Field Road is somewhat different than the riparian habitat south of Old Field Road and contains many tupelo (black gum) trees, pussy willows and young sycamore trees along with the tulip and beech trees found to the south.

## OPEN WETLAND: 7 acres

Most of the red maple swamp habitat is shaded with a closed canopy of medium to large red maple trees. In several areas throughout the Greenway, either due to diseases of ash and elm trees or for other reasons, the canopy is open and the ground is sun-lit. These open wetlands, also called emergent wetlands, have more flowering plants because of sunlight. These attract pollinators and other insects that, in turn, attract other wildlife, making these open wetlands rich in biodiversity.

A small but interesting wetland is found just off Shelter Rock Road along one of the sewer trail extensions that dead-ends into a private lot. This wetland has trees not often found in this region including yellow birch and tupelo (black gum) along with the more common pussy willow. Clethra (sweet pepperbush) dominates the shrub layer while monkey flower, sallow sedge and skunk cabbage grow in the ground layer. Just to the north and close to the home vegetation shifts to non-native, invasive mugwort, autumn olive and forsythia which may threaten this pristine wetland if not controlled.

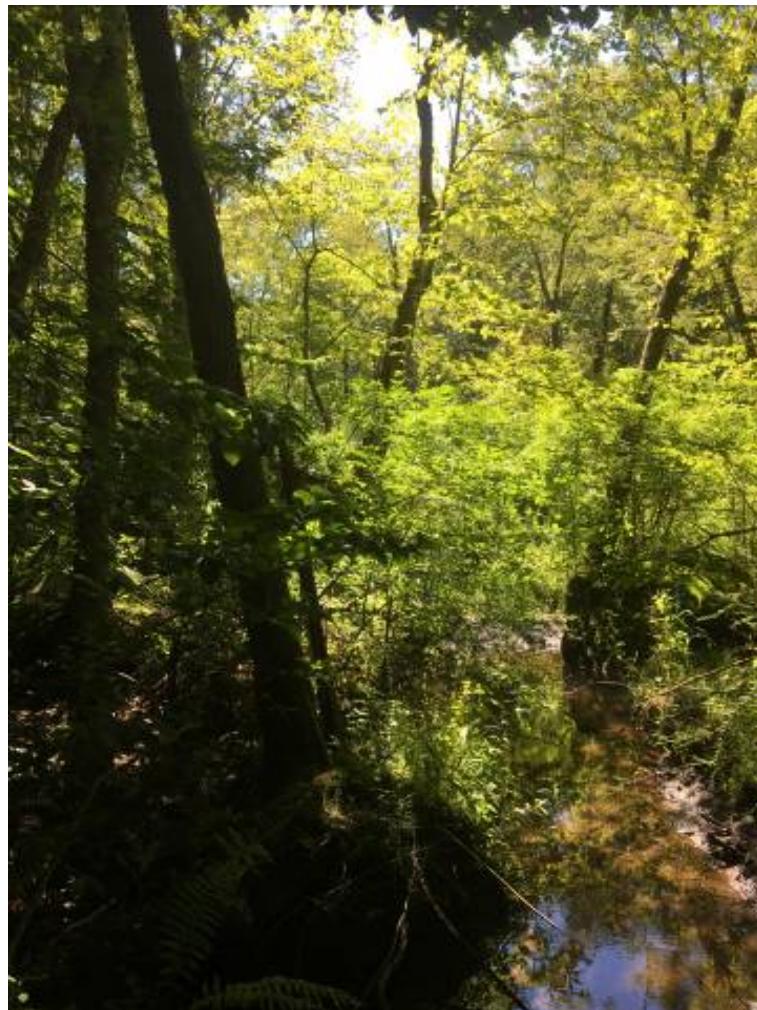
Just west of Brookbend Road lies a 1.5 acre open wetland where the open canopy allows sunlight to reach the ground. Tulip, yellow birch and red maple trees grow on the perimeter along with dead ash trees. The shrub layer has many winterberry and clethra (sweet pepperbush) shrubs along with spicebush. The ground cover includes tussock sedge, bulrush, cinnamon fern, jewelweed and skunk cabbage. Many dragonflies and damselflies, including ebony jewel wing, and butterflies including red admirals, fly here, attracted by the sunlight. At least four other wetlands with open canopies lie in the low elevations around the Brook and around the tributaries in the northern third of the Greenway. Shorter (approximately 30 feet in height) red maple, yellow birch and beech grow at the perimeter along with ironwood trees and a few hemlocks.



Open wetland near Brookbend Road

## BOOTH HILL GREENWAY

Elderberry and alder shrubs were found here, along with sweet pepperbush (clethra).  
Ground cover includes cinnamon, sensitive and New York fern and clearweed.



Open wetland just south of cemetery property

## BOOTH HILL GREENWAY

### HIKING TRAILS:

There are at least seven public accessible trail entrances to the Greenway and more entrances could be added, if desired. Signage could encourage more hikers to use the trails (see Boundary Photo Locations Map, page 335 for locations of these photographs).



South sewer trail entrance Shelter Rock Road

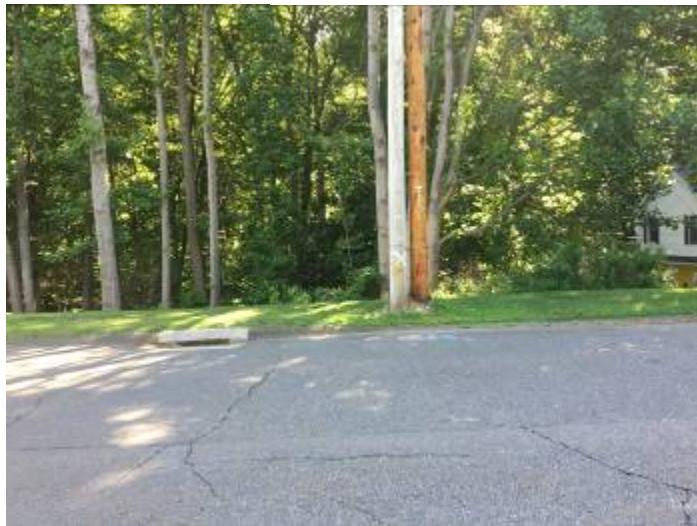


North sewer trail entrance Shelter Rock Road

## BOOTH HILL GREENWAY



No trail entrance currently at Doe Hollow Drive and Strobel Road intersection

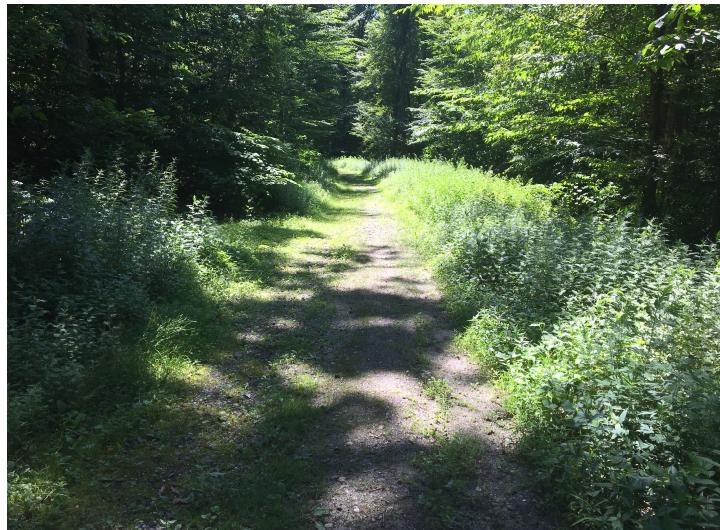


No trail entrance currently at frontage at Doe Hollow Drive  
500 feet north of Strobel Road intersection

Frontage at northeast corner of greenway on Shelter Rock  
Road--other trail entrances are just to the south



No trail entrance currently at frontage at Quaker Lane &  
Spinning Wheel Road



Sewer trail entrance to 1 mile long trail-Old Field Road



Sewer trail entrance at end of Towerview Drive



Sewer trail entrance at end of Firehouse Road



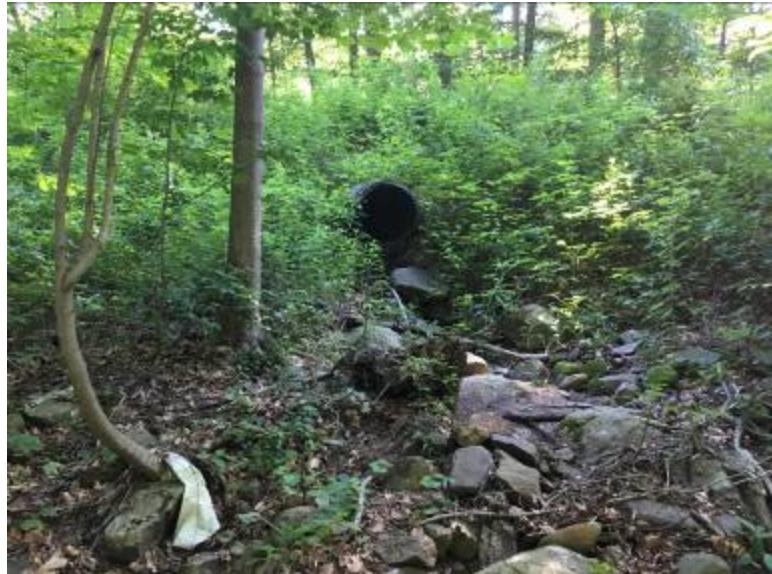
Sewer trail entrance at end of Ranch Drive



Sewer trail entrance at end of Marathon Road

STORMWATER ISSUES:

Multiple culverts drain storm water from streets into Booth Hill Brook



Culvert beneath sewer trail off Shelter Rock Road



Culvert at Clarion Place



Culvert at Quaker Lane and Spinning Wheel Road



Storm water erosion from culverts

Rip-rap, check dams and plunge pools at culverts can slow silt from flowing into Booth Hill Brook and Pinewood Lake



Newer culvert with adequate amounts of rip-rap at Towerview Drive

## BOOTH HILL GREENWAY

### PLANTS OF THE BOOTH HILL GREENWAY:



Princess pine & partridgeberry



Trillium (bottom) and Solomon's seal



Indian cucumber



White baneberry-'doll's eyes'



Indian pipe



Monkey flower in open wetland

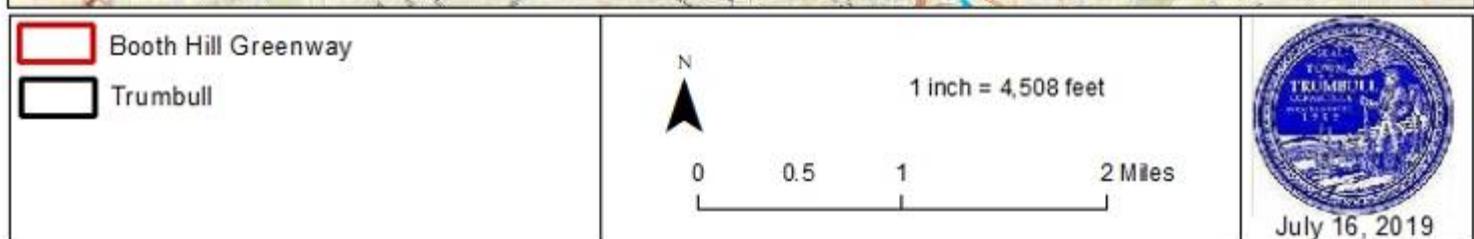
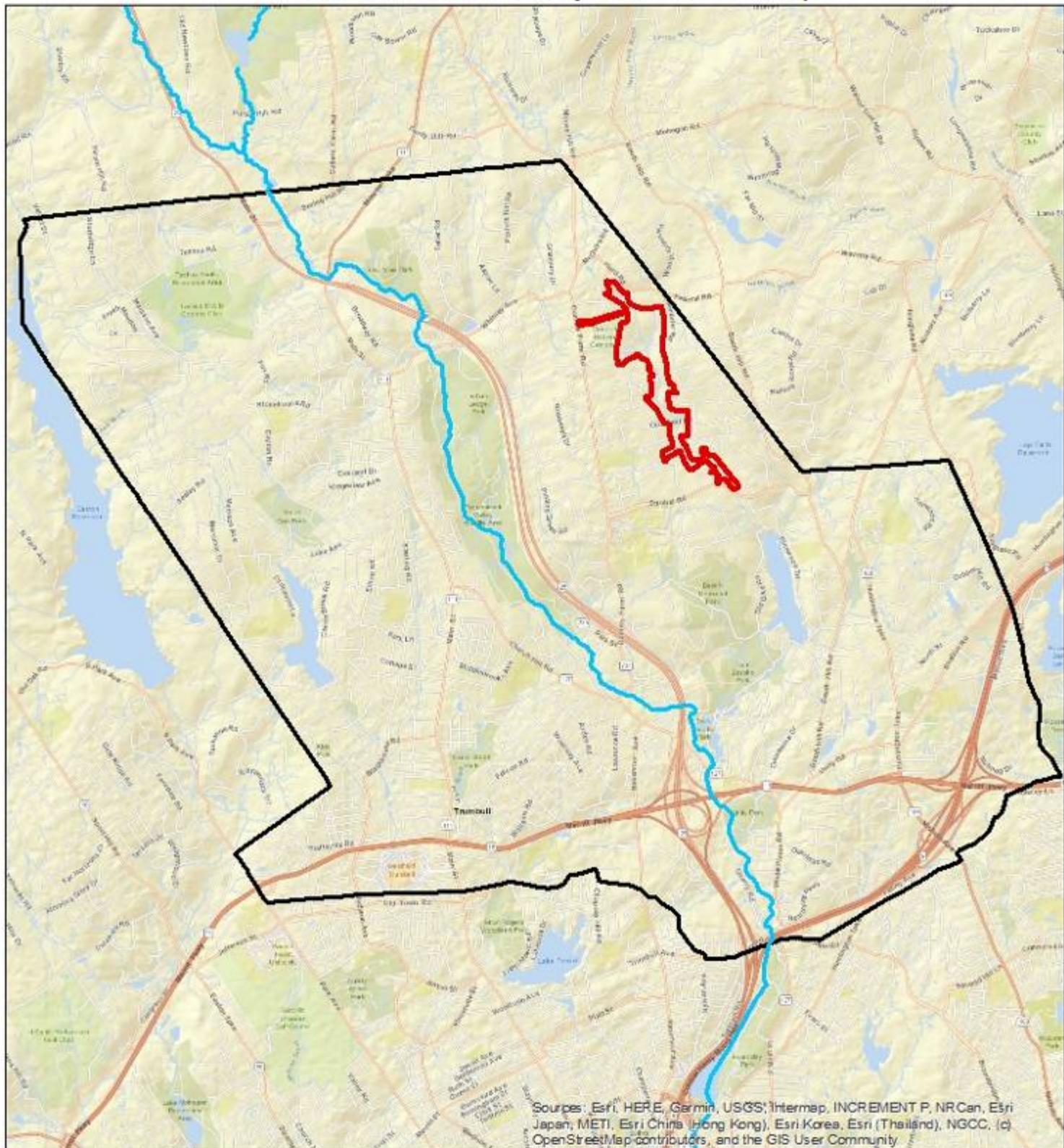


Bulrush in open wetland

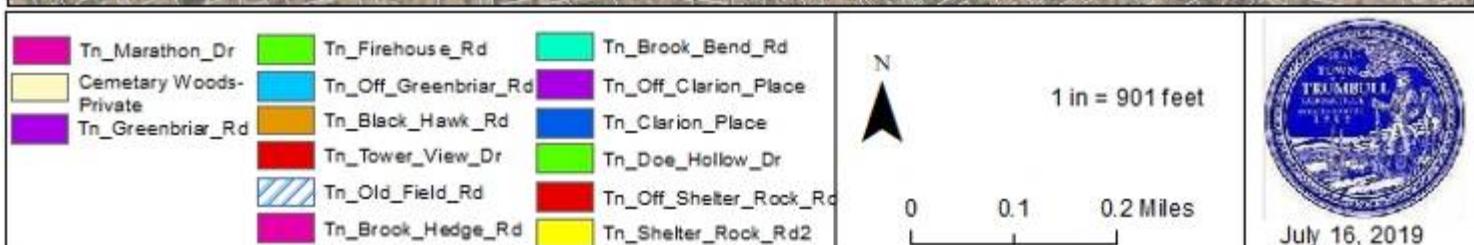
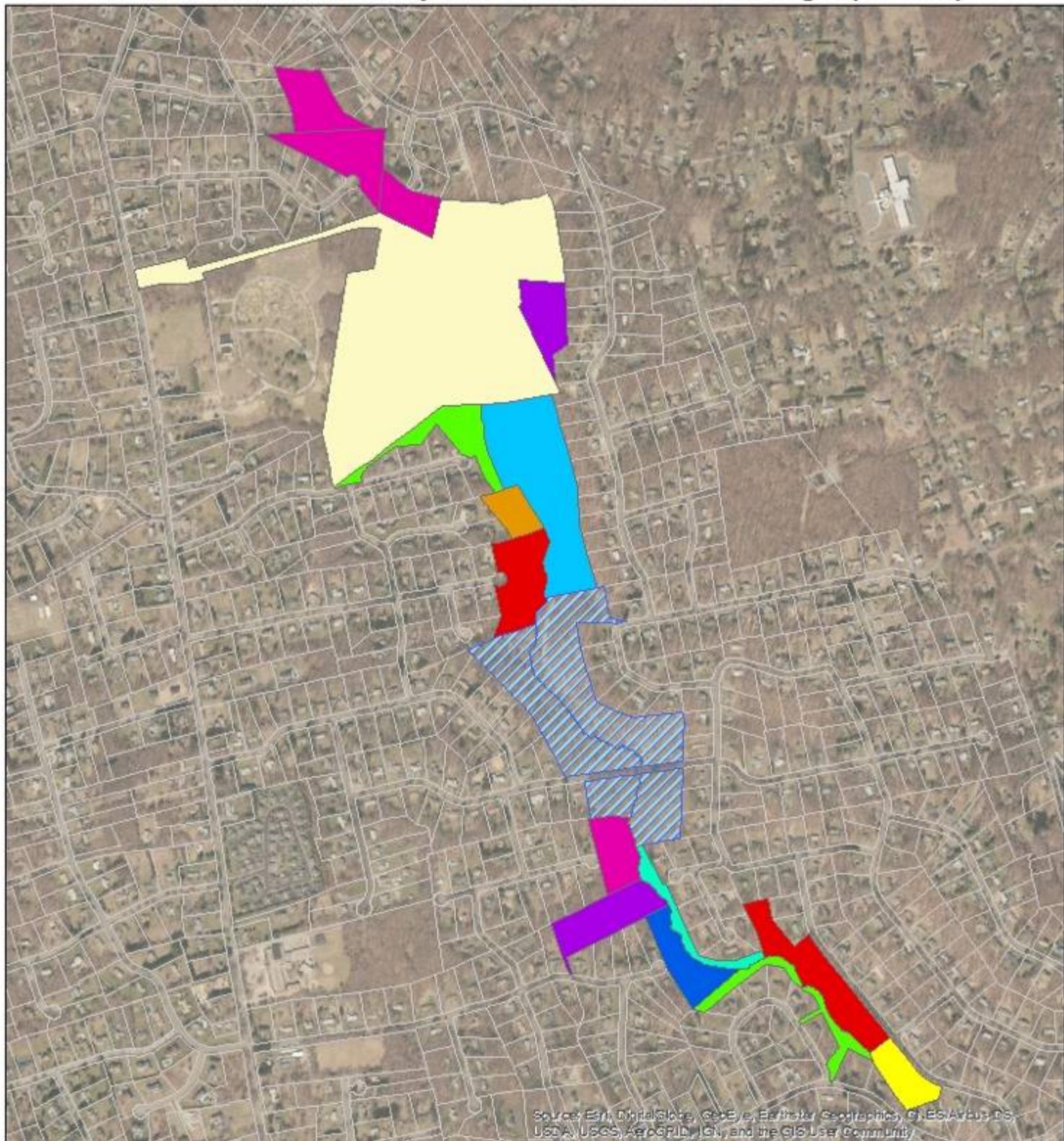


Horsebalm

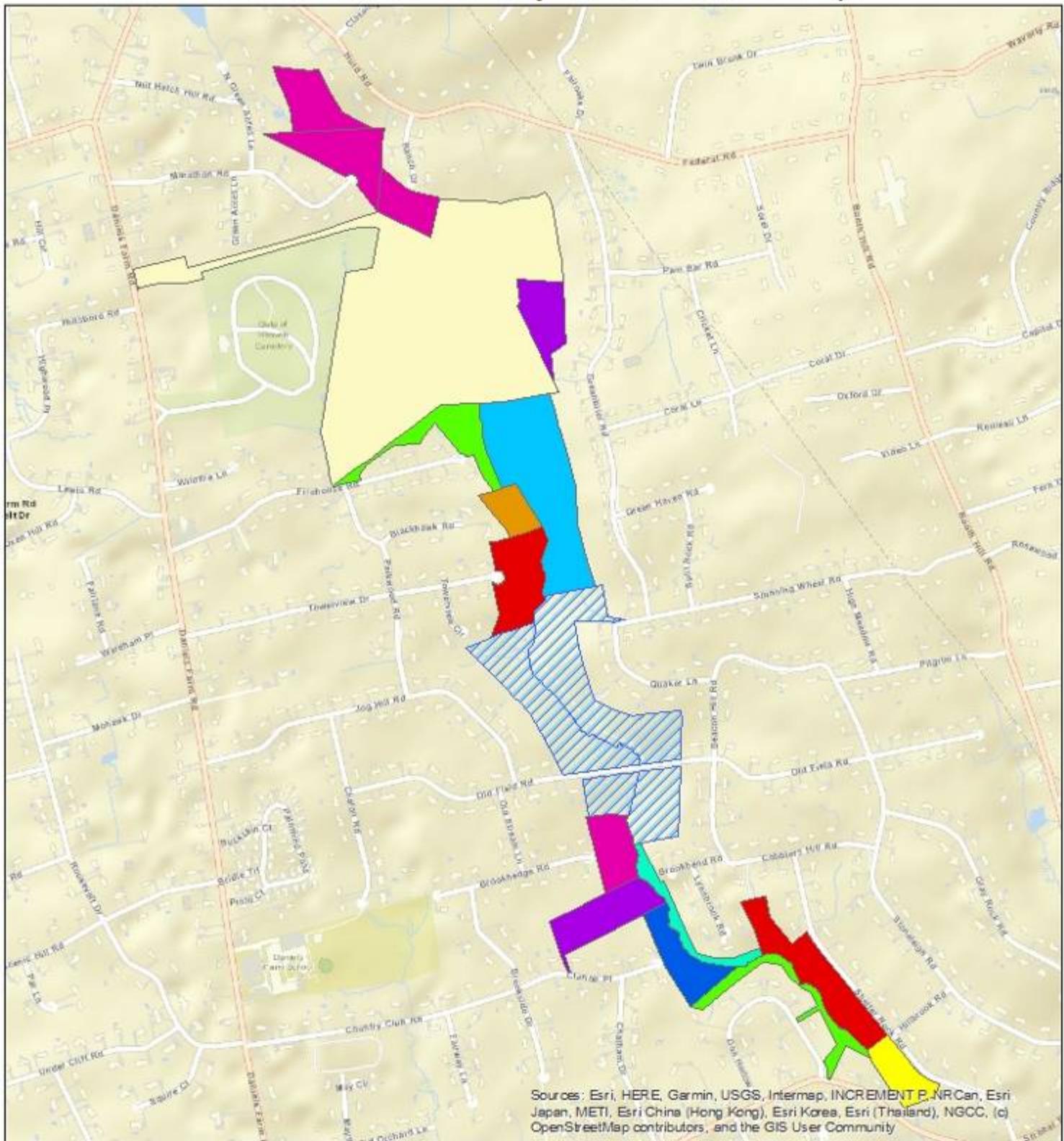
# Booth Hill Greenway Location Map



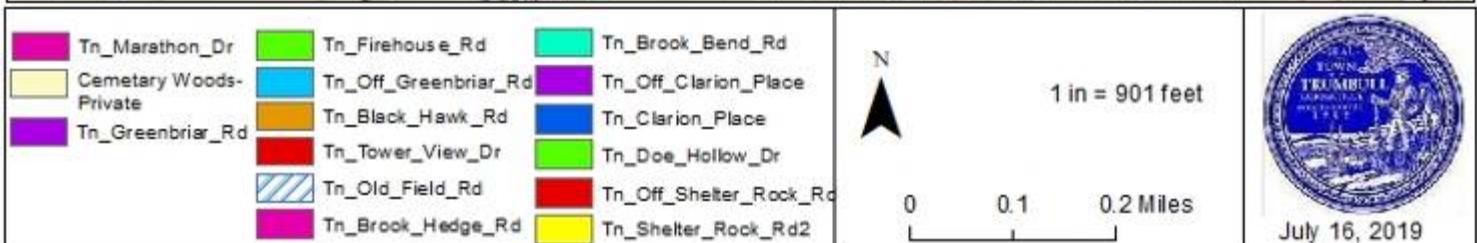
# Booth Hill Greenway Parcel Satellite Photograph Map



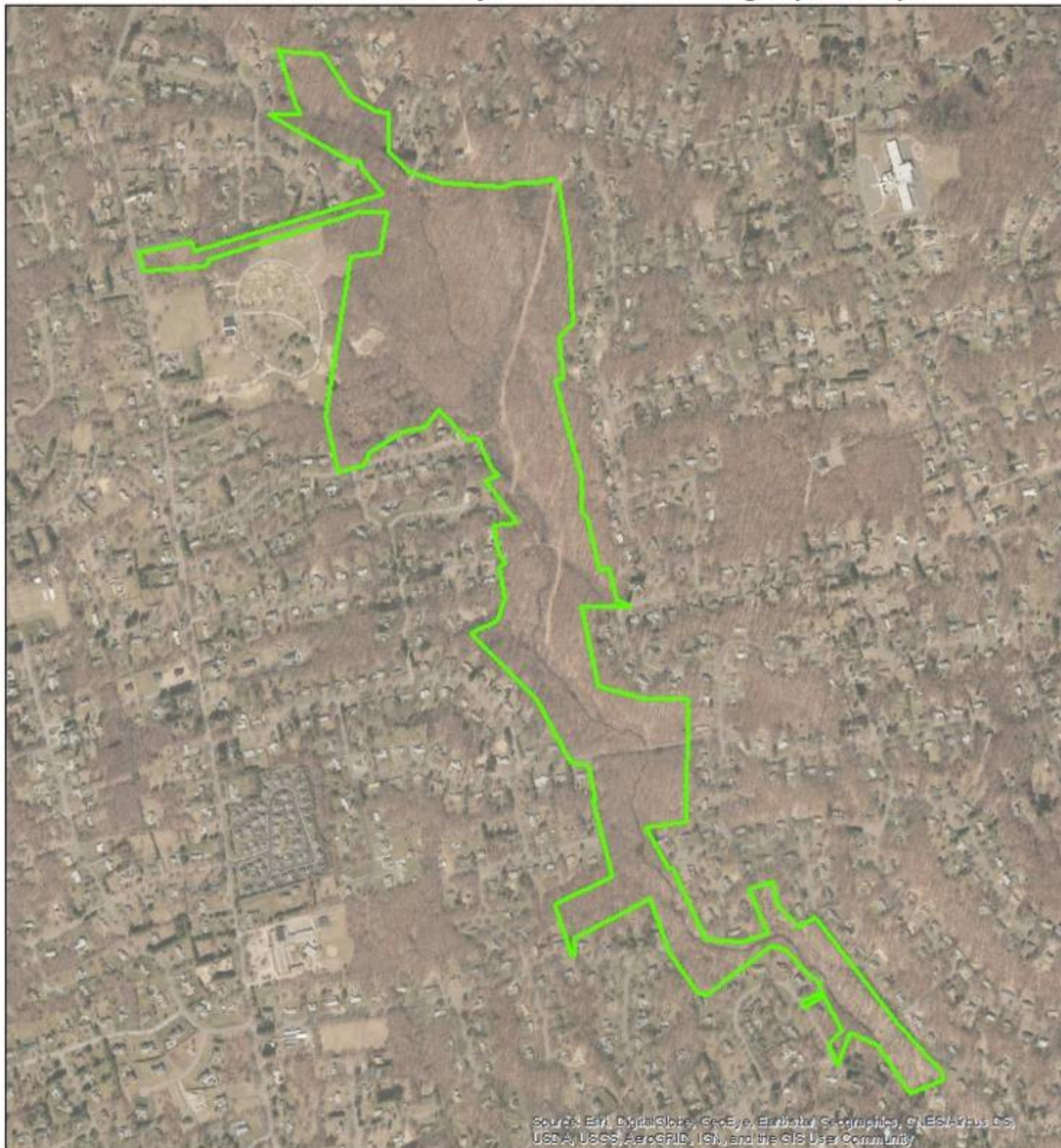
# Booth Hill Greenway Parcel Street Map



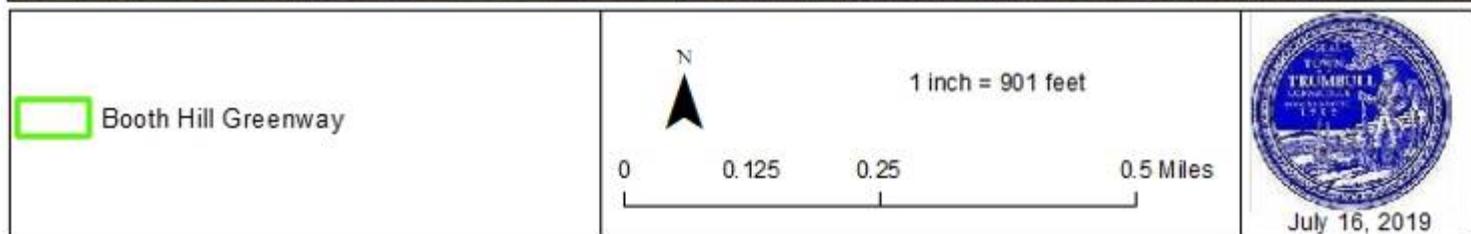
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



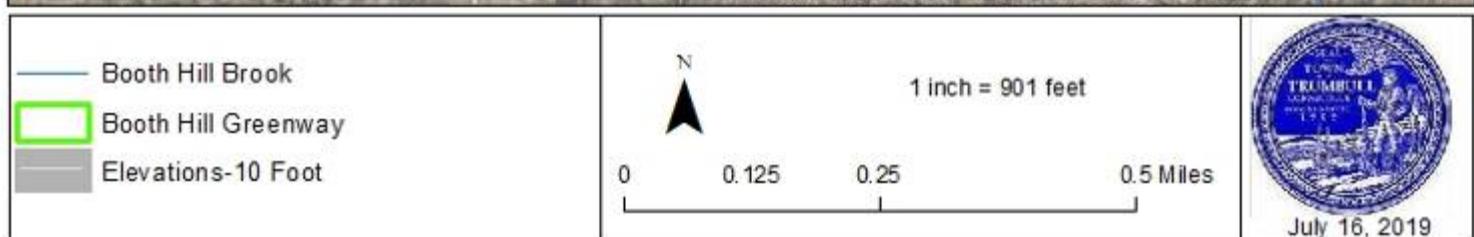
# Booth Hill Greenway Satellite Photograph Map



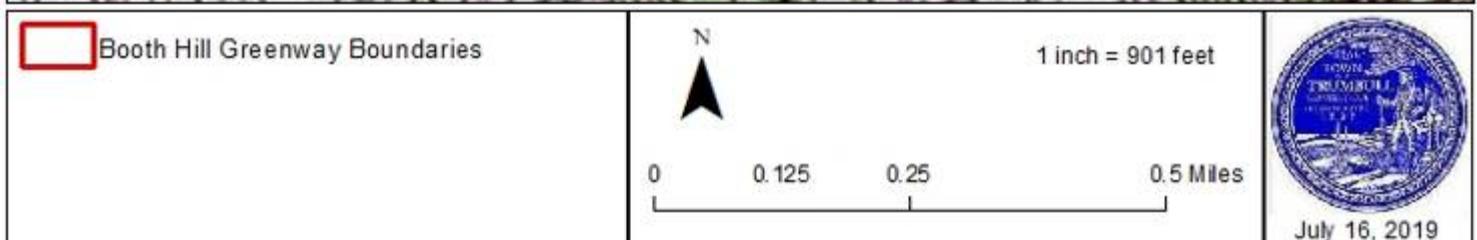
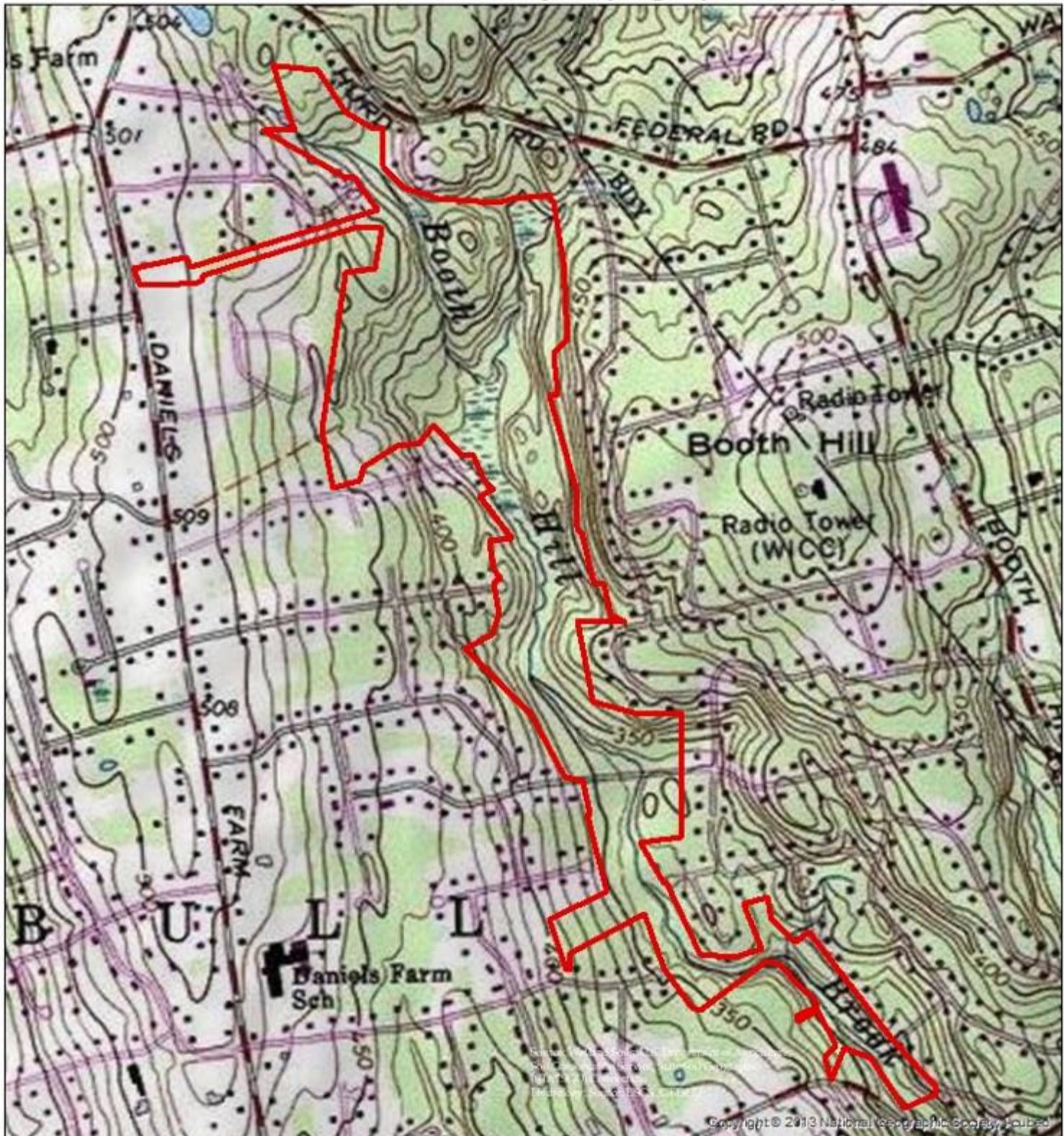
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



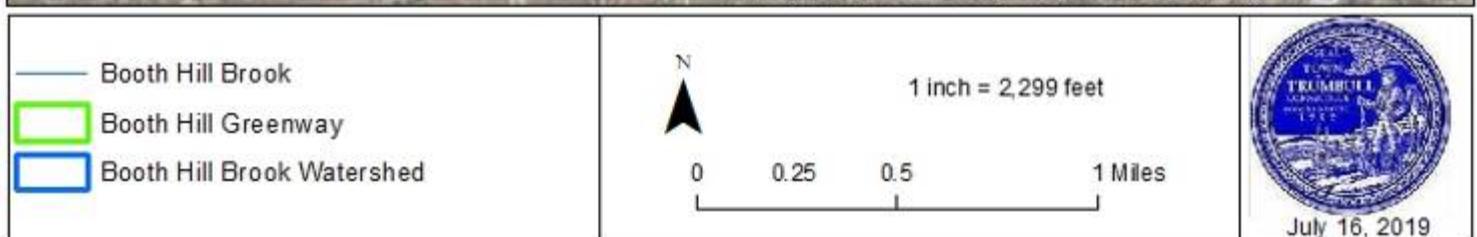
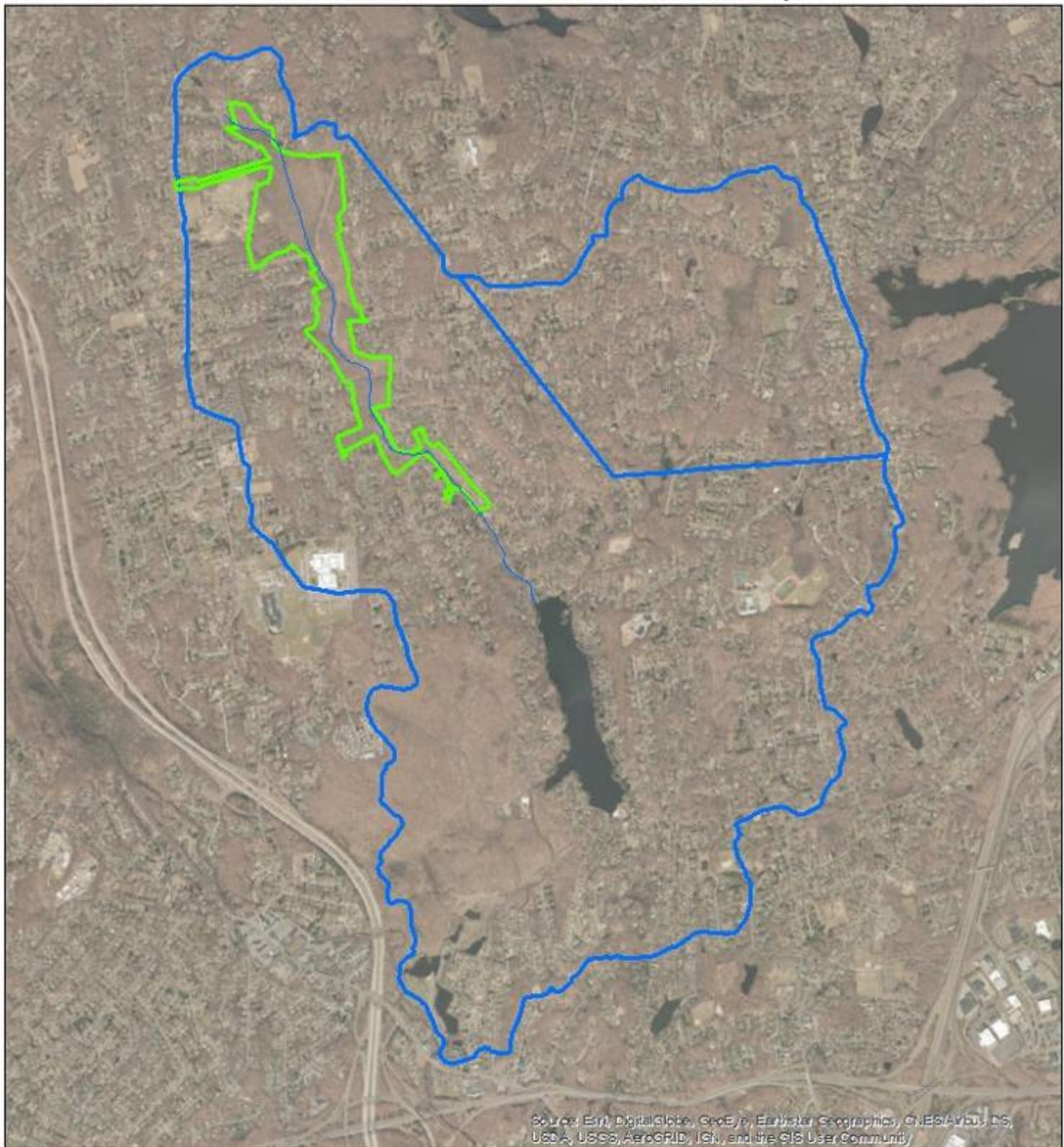
# Booth Hill Greenway Elevations Map



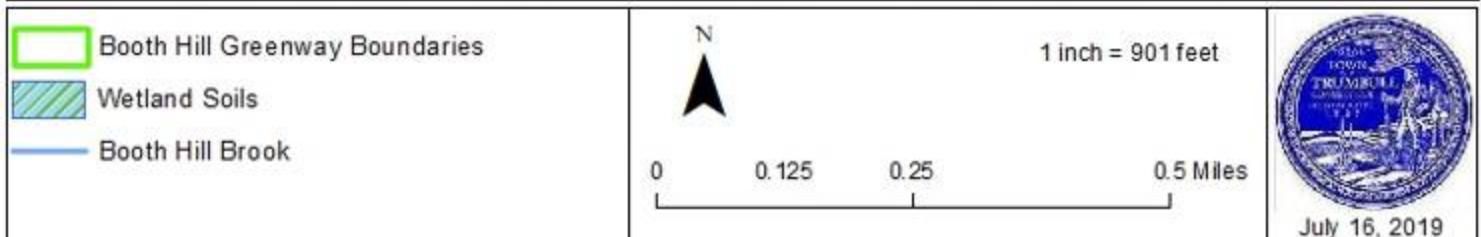
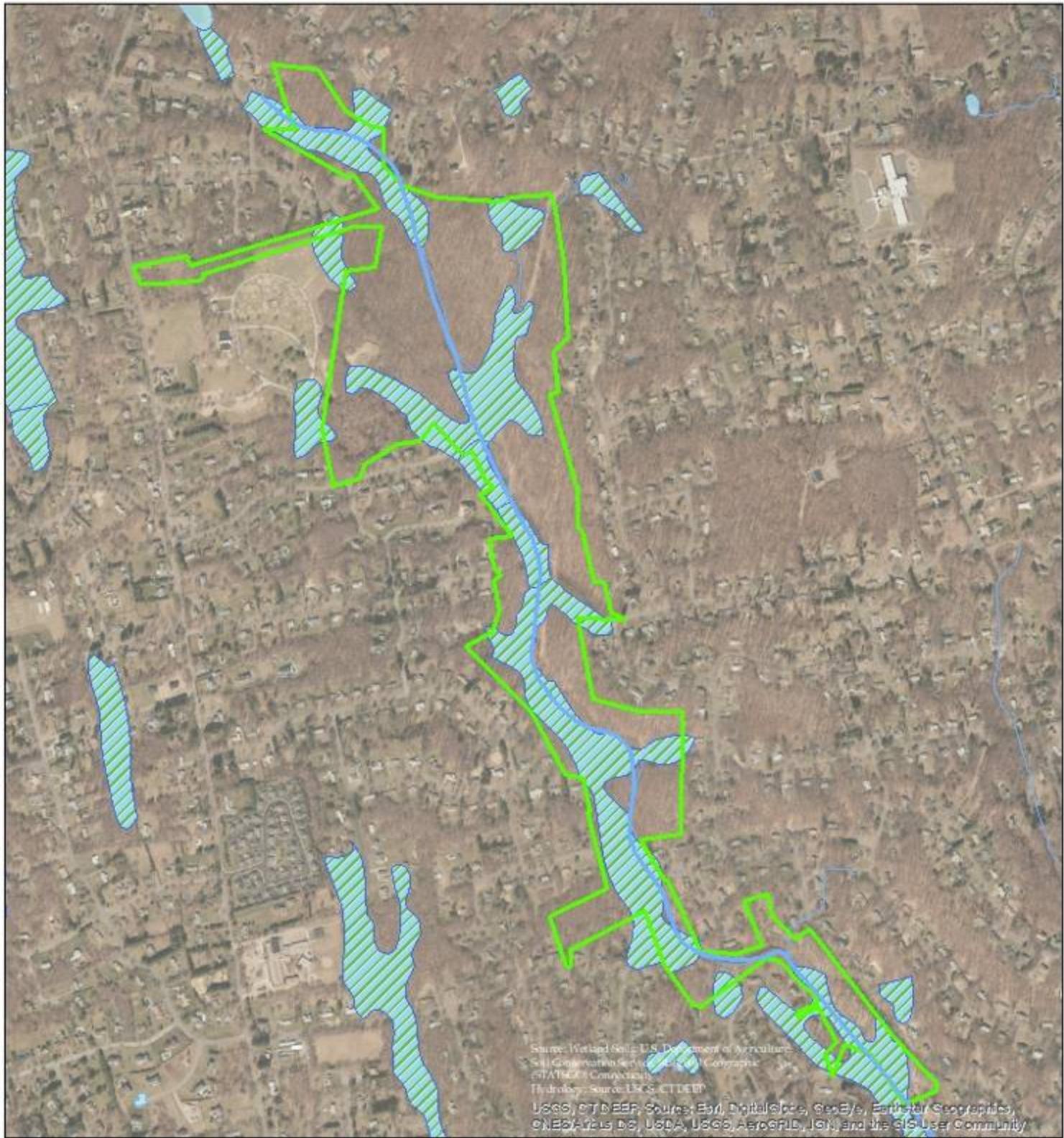
# Booth Hill Greenway Topographic Map



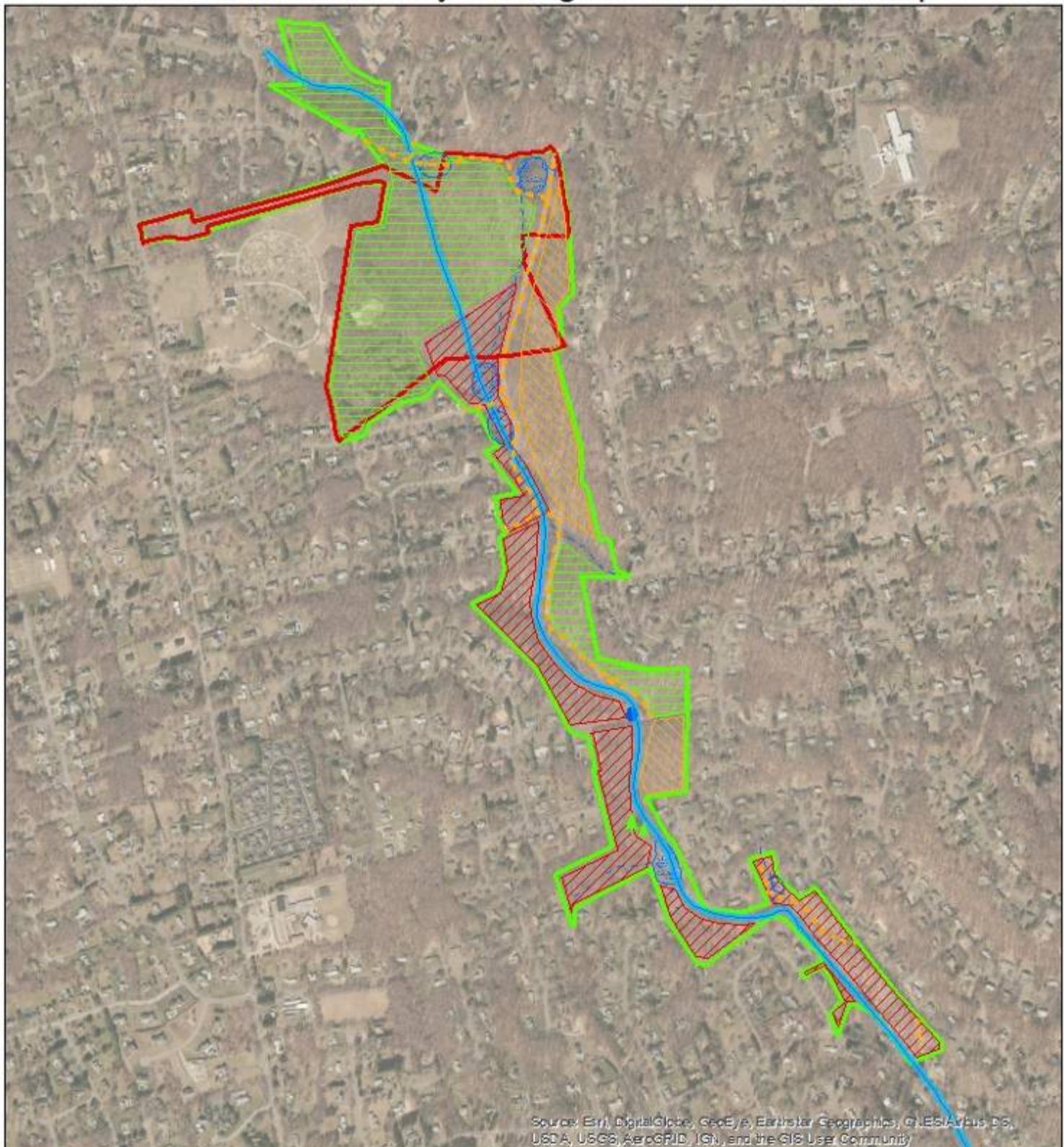
# Booth Hill Brook Watershed Map



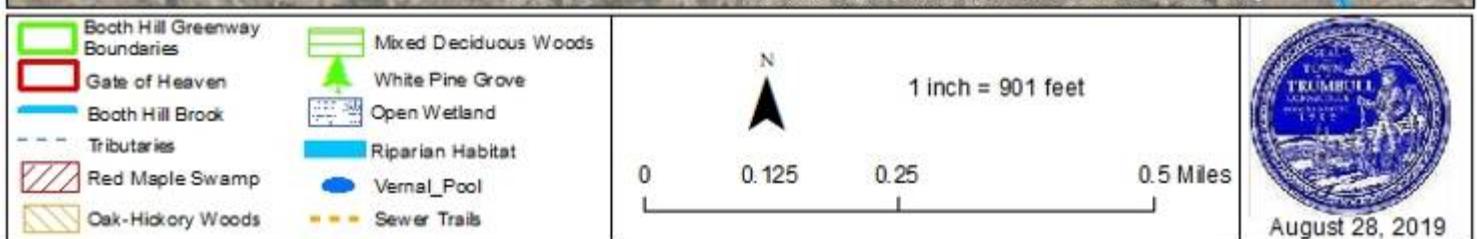
# Booth Hill Greenway Streams & Wetland Soils Map



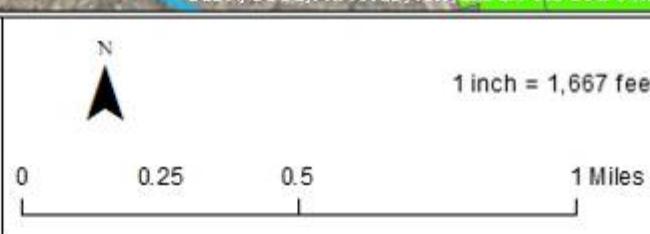
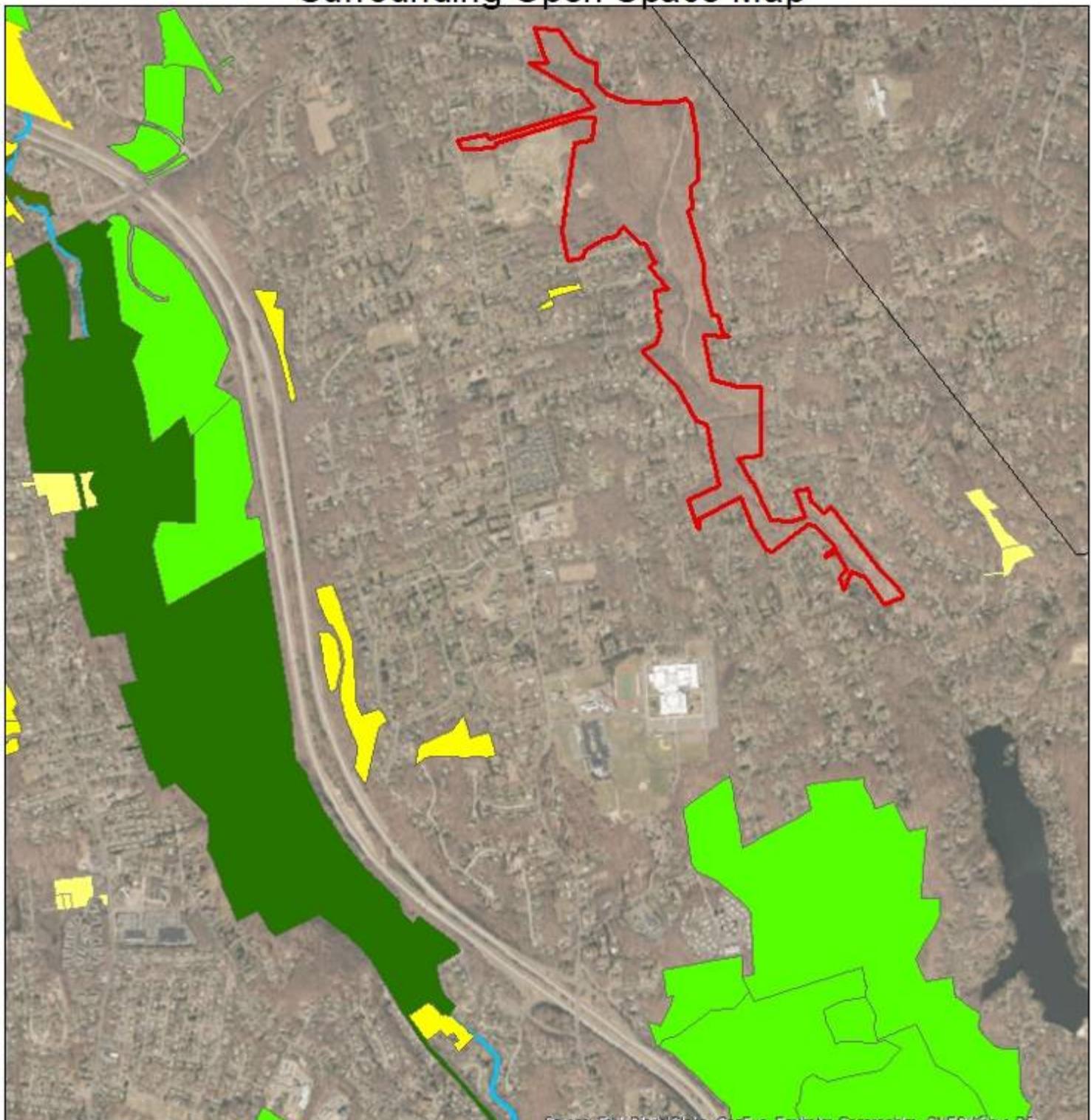
# Booth Hill Greenway Ecological Communities Map



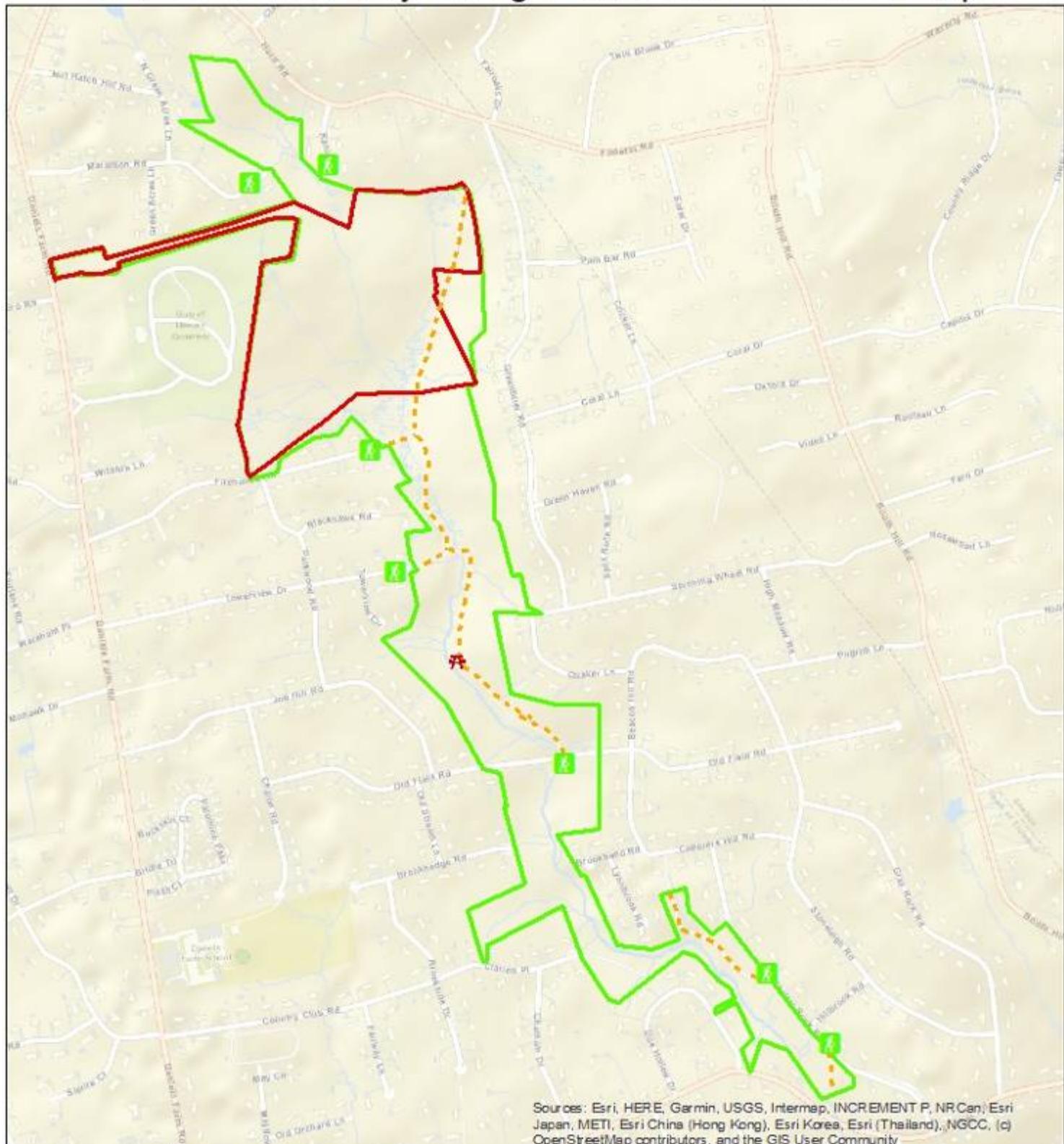
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



## Booth Hill Greenway Surrounding Open Space Map

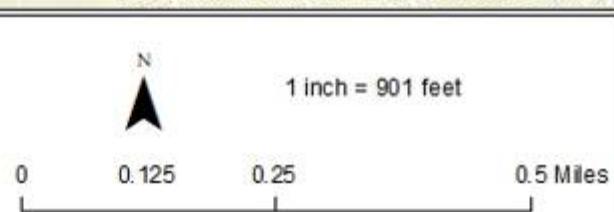


# Booth Hill Greenway Hiking Trail & Trail Entrances Map

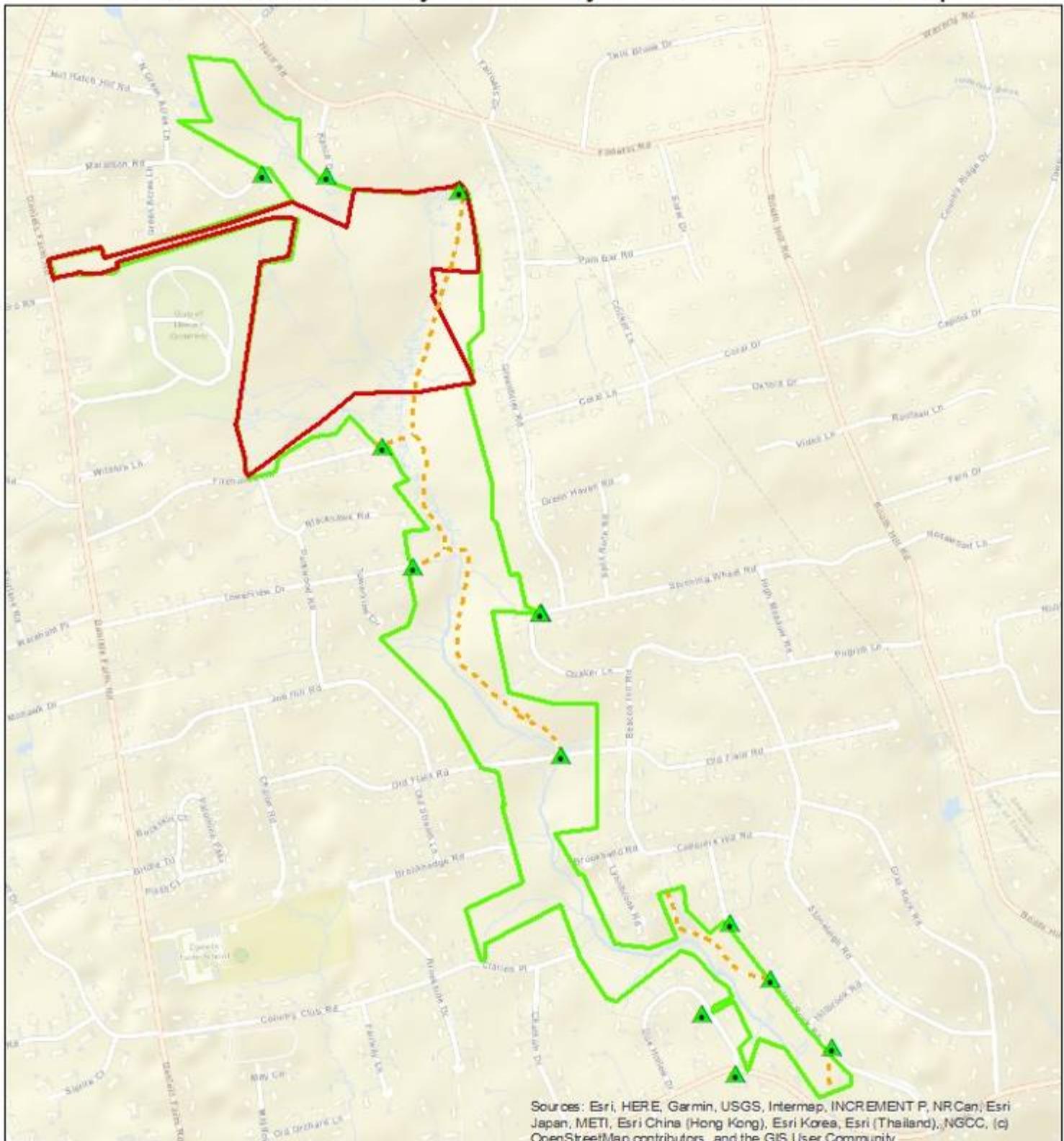


Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan; Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Booth Hill Greenway Boundaries Gate of Heaven Sewer Trails Hiking Trail Entrances Benches
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## Booth Hill Greenway Boundary Photo Locations Map



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

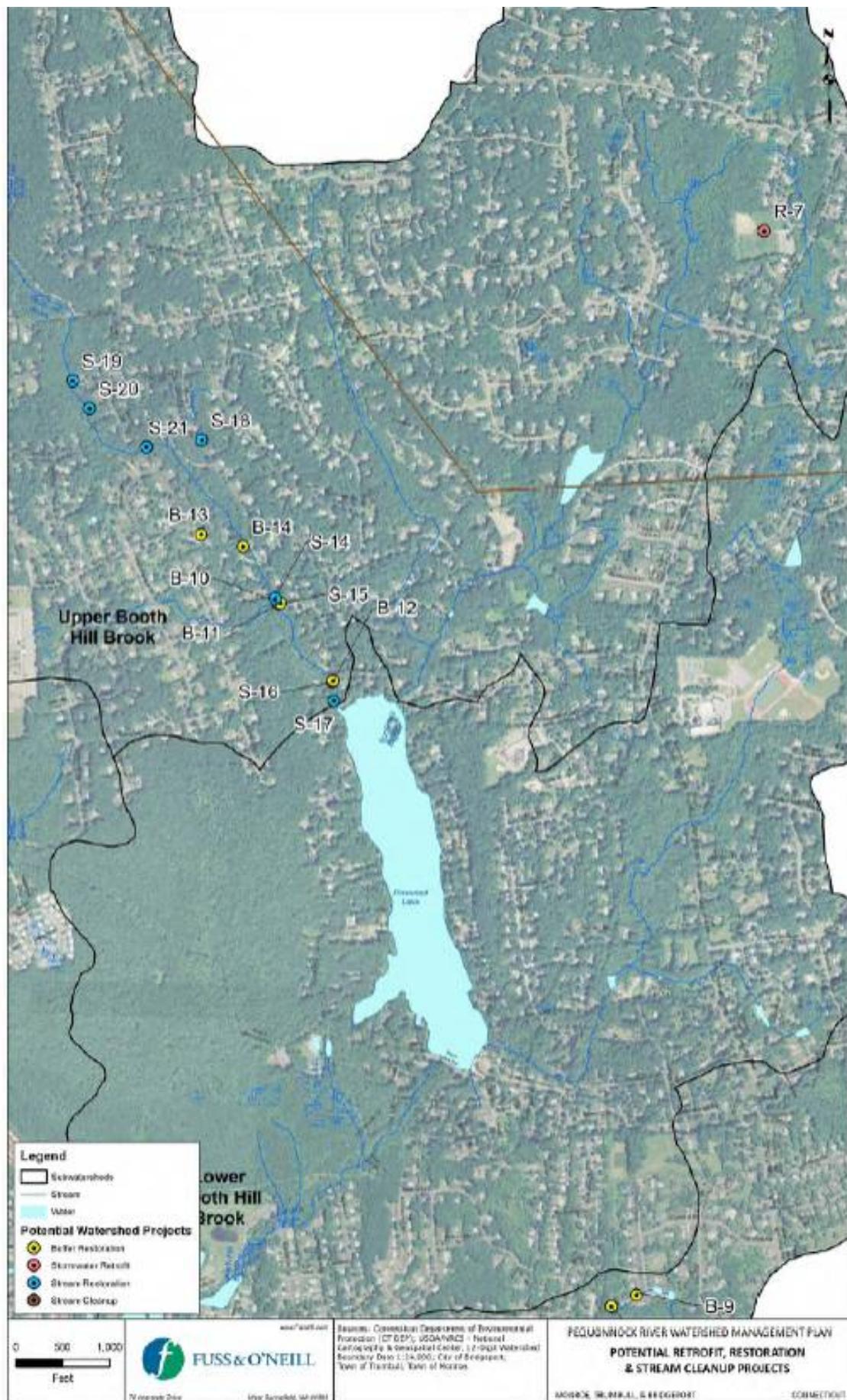
- Booth Hill Greenway Boundaries
- Gate of Heaven
- Sewer Trails
- Boundary Photo Locations

N  
1 inch = 901 feet  
0 0.125 0.25 0.5 Miles



August 28, 2019

# Potential Retrofit, Restoration Projects Map



## THREATS:

- Water pollution from stormwater runoff can add pollution to Pinewood Lake
- Flooding
- Development of Cemetery's 55 acres of woods
- Clearing by neighbors
- Invasive mugwort along trail may spread
- Invasive autumn olive and forsythia may spread into wetlands
- Deer browse
- Litter
- Climate change increasing flooding

## RECOMMENDATIONS:

- Acquire/protect permanently 55 wooded acres at Gate of Heaven Cemetery
- Monitor water quality of Booth Hill Brook
- Stormwater improvements to control stormwater erosion and pollution at culverts as recommended in Pequonnock River Watershed Based Plan
- Monitor/remove invasive plants if spreading
- Add trail entrances at other neighborhoods
- Add trail signs and trail maps to encourage trail use
- Monitor/Clean up trash

## BOOTH HILL GREENWAY

### PLANT & ANIMAL INVENTORY July 16, 17, August 28, 2019 Field Surveys

#### **Trees:**

*Acer platanoides* (Norway maple)  
*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Ailanthus altissima* (tree of heaven)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carpinus caroliniana* (ironwood)  
*Carya cordiformis* (bitternut hickory)  
*Carya glabra* (pignut hickory)  
*Carya ovata* (shagbark hickory)  
*Carya tomentosa* (mockernut hickory)  
*Catalpa bignonioides* (catalpa)  
*Cornus florida* (flowering dogwood)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Juniperus virginiana* (red cedar)  
*Liriodendron tulipifera* (tulip tree)  
*Morus alba* (white mulberry)  
*Nyssa sylvatica* (tupelo)  
*Pinus strobus* (white pine)  
*Platanus occidentalis* (American sycamore)  
*Populus deltoids* (cottonwood)  
*Populus tremuloides* (quaking aspen)  
*Prunus serotina* (black cherry)  
*Pyrus calleryana* (Bradford pear)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Robinia pseudoacacia* (black locust)  
*Salix* spp. (willow)  
*Tsuga canadensis* (eastern hemlock)  
*Ulmus americana* (American elm)

#### **Shrubs:**

*Alnus serrulata* (smooth [common] alder)  
*Berberis thunbergii* (Japanese barberry)  
*Chimaphila maculata* (pipsissewa, spotted/striped wintergreen)  
*Clethra alnifolia* (pepperbush)  
*Cornus alternifolia* (alternate leaf dogwood)  
*Elaeagnus umbellata* (autumn olive)  
*Euonymus alatus* (winged euonymus)  
*Hamamelis virginiana* (witch hazel)  
*Ilex verticillata* (winterberry)  
*Lindera benzoin* (spicebush)  
*Rosa multiflora* (multiflora rose)  
*Rubus flagellaris* (dewberry)  
*Rubus phoenicolasius* (wineberry)  
*Rubus* spp. (blackberry)

*Sambucus racemosa* (red elderberry)  
*Vaccinium angustifolium* (low-bush blueberry)  
*Vaccinium corymbosum* (high-bush blueberry)  
*Viburnum acerifolium* (maple leaf viburnum)  
*Viburnum dentatum* (arrowwood viburnum)

**Vines:**

*Amphicarpa bracteata* (hog peanut)  
*Celastrus orbiculatus* (Asiatic bittersweet)  
*Mitchella repens* (partridge berry)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Actaea pachypoda* (white baneberry)  
*Agrimonia eupatoria* (agrimony)  
*Alliaria petiolata* (garlic mustard)  
*Apocynum androsaemifolium* (dogbane, Indian hemp)  
*Arisaema triphyllum* (Jack-in-the-pulpit)  
*Artemisia vulgaris* (common mugwort)  
*Asclepias syriaca* (common milkweed)  
*Aster divaricatus* (white wood aster)  
*Bidens frondosa* (common beggarticks)  
*Circaea lutetiana* (quadrisulcata) (enchanter's nightshade)  
*Clinopodium vulgare* (wild basil)  
*Collinsonia Canadensis* (horse balm)  
*Commelina communis* (dayflower)  
*Daucus carota* (Queen Anne's lace)  
*Epipactis helleborine* (broad-leaved helleborine)  
*Erechtites hieracifolia* (pilewort)  
*Erigeron annuus* (daisy fleabane)  
*Hackelia virginiana* (stickseed)  
*Impatiens capensis* (orange jewelweed)  
*Maianthemum canadense* (Canada mayflower)  
*Medeola virginiana* (Indian cucumber)  
*Mimulus ringens* (monkeyflower)  
*Mitchella repens* (partridgeberry)  
*Monotropa uniflora* (Indian pipe)  
*Nabalus serpentarius* (lions foot)  
*Persicaria sagittata* (*Persicaria arifolia*) (halberd-leaved smartweed)  
*Pilea pumila* (clearweed)  
*Polygonatum biflorum* (true Solomon's seal)  
*Polygonum virginianum* (Virginia knotweed/jumpseed)  
*Scirpus* spp. (bulrush)  
*Solidago Canadensis* (Canada goldenrod)  
*Symplocarpus foetidus* (skunk cabbage)  
*Trifolium pretense* (red clover)  
*Viola* sp. (violet)

**Sedges & Rushes:**

*Carex blanda* (woodland sedge)  
*Carex lurida* (sallow sedge)  
*Carex pensylvanica* (Pennsylvania sedge)  
*Carex plantaginea* (seersucker sedge)  
*Carex stricta* (tussock sedge)  
*Juncus tenuis* (path rush)  
*Schoenoplectus* spp. (bulrush)

**Grasses:**

*Microstegium vimineum* (stilt grass)  
*Panicum clandestinum* (deer-tongue grass)  
*Phragmites australis* (giant reed grass)

**Ferns and allies:**

*Athyrium filix-femina* (lady fern)  
*Dennstaedtia punctilobula* (hay-scented fern)  
*Lycopodium obscurum* (ground pine)  
*Onoclea sensibilis* (sensitive fern)  
*Osmunda cinnamomea* (cinnamon fern)  
*Osmunda regalis* (royal fern)  
*Polystichum acrostichoides* (Christmas fern)  
*Thelypteris noveboracensis* (New York fern)

**Birds observed July 16, 17, August 29, 2019:**

*Accipiter striatus* (sharp-shinned hawk)  
*Melanerpes carolinus* (red-bellied woodpecker)  
*Colaptes auratus* (yellow-shafted flicker)  
*Picoides pubescens* (downy woodpecker)  
*Myiarchus crinitus* (great crested flycatcher)  
*Contopus virens* (pee-wee)  
*Parus atricapillus* (black-capped chickadee)  
*Parus bicolor* (tufted titmouse)  
*Sitta carolinensis* (white-breasted nuthatch)  
*Thryothorus ludovicianus* (Carolina wren)  
*Dumetella carolinensis* (gray catbird)  
*Hylocichla mustelina* (wood thrush)  
*Vireo olivaceus* (red-eyed vireo)

April 4, April 10, 2019 Field Surveys

**CONSERVATION VALUES** include: Forests with large trees some 36 to 45 inches in diameter, evergreen trees, wetlands, pond, riparian zones, streams and seeps, floodplain forests, fields and grasslands, shrub land, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

**PROPERTY DESCRIPTION:**

This 57-acre property was purchased by the Town of Trumbull in 2007 from Mary Bill who, with her husband C. Lewis Bill owned the nearby Park Gardens Floral Shop. It is located south of the Merritt Parkway near the southern boundary of Trumbull (see Location Map page 352). The property has one single family house with offices for Park Rangers and an equipment barn. The property had been a tree farm and nursery in the past and the entrance drive and home are surrounded by planted conifers. The property is approximately 50% wooded and 50% open area (see Satellite Photograph Map page 353 and Plant and Animal Inventory page 362). The open areas consist of: open canopy wetlands in the north, south and eastern portions of the property totaling approximately 16 acres; a cleared power line corridor amounting to approximately 5 acres; a 3.5 acre field that is regularly mowed, a 0.5 acre pond south of the entrance. The wooded, closed canopy areas consist of: red maple swamp in lower, wet areas; tulip-ash woods in moist areas; maple-beech woods in drier areas and oak-hickory woods on hill tops. A stream runs through the center of the property, feeding the pond and a recently-filled in wetland next to the office building (see Environmental Features Map page 356). Elevations drop from 210 feet above sea level in the northern and western sections to 110 feet in the wetlands at the south section of the property (see Elevations Map page 354 and Topographic Map page 355). The property is surrounded by single family homes on all sides and fragmented from other open space to the north by the Merritt Parkway (see Surrounding Open Space Map page 359). A town-owned 0.43 acre vacant parcel at 34 Round Hill Road also provides access to the Bill property.

## ECOLOGICAL COMMUNITIES:

The Bill property has the following ecological communities (see Ecological Communities Map page 358 and Plant and Animal Inventory page 362):

Emergent Wetland:	14 acres
Red Maple Swamp:	8 acres
Oak-Hickory Woods:	8 acres
Maple-Beech Woods:	8 acres
Power Line Corridor:	5 acres
Field:	4 acres
Tulip-Ash Woods:	3 acres
Evergreen Plantation:	3 acres
Stream Corridor:	2 acres
Open Wet Meadow:	1 acre
Pond:	0.5 acres

## RED MAPLE SWAMP/EMERGENT WETLAND: 22 acres

The northeast section of the property is very flat, low and wet. The far eastern four acres are classified as wetland soils and have a closed canopy of red maple trees approximately 50 feet in height along with some elm trees. The shrub layer is mainly alder; invasive phragmites and skunk cabbage make up the ground layer.

The six acres west of this wetland are also low, wet and inaccessible and appear to be frequently flooded Red maple and tulip trees dominate and this could be considered a floodplain forest.

## OAK-HICKORY WOODS: 8 acres

The northern edge of the field is higher in elevation and drier and transitions into a mature, oak-hickory woods. Trees here are large-averaging 18 inches in diameter-and consist of red and black oak with an understory of black birch, ironwood, hophornbeam and hemlock. The shrub layer consists of spicebush and a small amount of barberry while white pine and Norway spruce seedlings grow on the ground.

An old stone foundation is found further up the hillside just below a rock outcrop. Between the foundation and the office building, invasives become common and include burning bush, multi-flora rose and bittersweet.

Another patch of oak-hickory woods is found in the area northwest of the power line corridor. Other trees include black birch growing amid red and black oaks. Beech saplings make up the understory. A stone wall runs north south, perhaps an old boundary line.



Old Foundation

## MAPLE-BEECH WOODS: 8 acres

West of the rock outcrop and further up the hillside the trees transition to a maple-beech forest of medium-sized trees. The understory is made up of sugar maple and beech saplings and some black birch and white oaks. The ground cover is typical of dry, rocky soil and includes Pennsylvania sedge, hair cap moss and beech drops. Two very large white oaks grow here, one 36 inches in diameter, the other 40 inches in diameter.



Stone wall running north-south

Another patch of maple-beech woods is found north of the power line corridor and east of the stream. It is dominated by beech trees with shinleaf wildflower in the ground layer.

#### POWER LINE CORRIDOR: 5 acres

Power lines run east-west through the northern half of the Bill property. The cleared area below the power lines has young red cedar, black cherry and sassafras trees; winterberry, autumn olive and multi-flora rose shrubs and Canada goldenrod and little bluestem grass in the higher, western portion and pussy willow and mugwort in the wetter, lower portion toward the center of the property. Although man-made, since this type of open, shrub land habitat is becoming very rare in the state, power lines provide some benefits to plants, birds that require shrub land habitat and other wildlife.



View east from power lines

#### FIELD: 4 acres

A 4-acre field lies west of the barn. The south-western quarter of the field—approximately 1 acre—is classified as hydric (wet) soil, indicating that this area has been filled in. Satellite photographs show that the entire field was covered with mounds of fill recently.



4-acre field, looking north and northwest

The fill extends to the edge of the wetland and stream that runs along the property's western boundary. Disturbance and fill bring with it invasive plants and this western edge is filled with invasive Japanese knotweed, at least five invasive ailanthus trees, mugwort, wineberry, burning bush, barberry and bittersweet vines growing up the trees. South west of the field lies a three-quarter acre open wet meadow which is completely shrouded by invasive porcelain berry vine. South of this is a large swamp with 60 foot tall red maples and a few native black willow trees.



Porcelain berry vines in open wet meadow

Mary Bill Satellite Photograph Map  
Showing Fill in Field



**EVERGREEN PLANTATION/ENTRANCE: 3 acres**

The single-lane entrance driveway is lined on the north side by white pines which are approximately 18 inches in diameter along with two northern white cedars, all planted. Naturally occurring trees include a large 36 inch diameter red oak, an 18 inch diameter black cherry and a red cedar and, further into the woods, two dozen white pines and six large black oaks with a diameter of 30 inches. The understory consists of beech saplings. The south side of the drive is lined with over twenty 12 inch diameter white spruce, a few blue spruce and a few red pines, all planted. Ground cover on both sides consists of climbing euonymus vines and myrtle and native spotted wintergreen. A stream coming from a large wetland north of the property runs along the south side of the drive. Native tulip trees, alder shrubs and skunk cabbage grow along the stream bank.

Between the stream and the barn is a wetland with an interesting grove of over twenty American holly, planted, that are now 10 inches in diameter. Other naturally occurring trees include medium-sized tulips and red maples and several larger black and white oaks with diameters of between 24 and 30 inches. One especially large oak has a 45 inch diameter. Also growing here is a grove of white pines and, closer to the water, a few shagbark hickories. The shrub layer consists of medium to large rhododendrons which were planted.

Other trees planted around the barn and house include white pine, three Norway spruce in the middle of the parking lot, a line of hemlocks and a grove of white pine, approximately 60 feet in height, along the east side of the barn. A lone, large, 40 inch diameter sassafras tree grows near the edge of the field. Japanese yews and juniper shrubs grow close to the house.

A pond directly east of the house has recently been filled in. The fill has little organic matter in it, making it inhospitable to grass and other vegetation except for invasive mugwort, which was already growing as of early April. The mugwort should be removed so that it does not spread to the other field.



Filled in pond east of house



Fill up to edge of stream

## TULIP-ASH WOODS: 3 acres

Tulip trees are the most common tree growing along the edges of the field-indicating that the soil here is very wet. One very large tulip growing close to the stream is nearly five feet in diameter and is covered in climbing euonymus vine. Tupelo (black gum) and white ash, trees that also prefer moist soil, grow along the field edge as well. The very sunny southern edge of the field has black cherry trees, an unusually healthy, large elm tree and a grove of sassafras. Eight red cedars and a lone northern white cedar grow in the field's northwest corner.



Triple-trunked tulip tree

A trail runs from half-acre town-owned parcel at 34 Round Hill Road to a gate and then across a stream at the property's southwest border, providing access to the houses along Round Hill Road (see Future Trail Map page 360). An interesting three-stemmed tulip tree grows between two other trees along the eastern edge of the trail.

Just east of the trail is a natural wetland filled with tupelos, tulips, sugar maples, black birch and a large, 30 inch diameter swamp white oak. Ironwood grows in the understory; winterberry in the shrub layer and skunk cabbage on the ground.

The stream feeding this wetland is surrounded by spicebush shrubs, skunk cabbage, yellow birch and tulip trees.



Wetland along trail

## STREAM CORRIDOR: 2 acres

Two streams flow into the property at the northwest boundary, draining from wetlands to the north. The buffers running parallel to the streams are called riparian zones-- transition zones between stream, wetlands and dry upland areas. Because these zones are made up of overlapping habitats they have a greater variety of plant and animal species than the other zones, including insects, amphibians, reptiles, mammals and waterfowl that move between land and water. The riparian zone is critical to the health of streams because the riparian vegetation reduces erosion and water pollution by regulating the overland flow of water to the stream, soaking up water as it runs off the land and slowly filtering and releasing that water back into the stream. Riparian vegetation also contributes shade, food and shelter for aquatic organisms.

Trees growing alongside the stream include tulip, bitternut hickory and yellow birch with ironwood and spicebush shrubs below. The ground layer consists of Christmas ferns, jewelweed and skunk cabbage. There are few invasive plants found here.

The streams converge and flow out of the wetland into a picturesque gorge with huge boulders. This would be a very interesting destination for hikers if a trail were made from the entrance drive to the pond at the southeastern boundary, across the existing wooden bridge which needs repair, to the large open field, past the rock outcrop and power lines to this gorge and then continuing to the office which can serve also as a



Stream at northwest boundary



Boulders in gorge

Visitors' Center--it now has many interesting objects, displays and a butterfly collection (see Future Trail Map page 360).



Stream flowing into gorge

#### OPEN WET MEADOW: 1 acre

The open wet meadow community is an unusual and valuable plant and animal community. Unfortunately because of fill, cutting and disturbance to the field, much of the open wet meadow and the trees surrounding the meadow are shrouded with invasive porcelain berry and efforts should be made to remove the porcelain berry.

#### POND: 0.5 acres

Another interesting part of the Bill property is the pond hidden in the southeast section of the property. The dense evergreens planted south of the entrance drive when this was a tree farm and nursery obscure the pond and field around it. Wood ducks and red shouldered hawks were observed around the pond on April 10, 2019. The pond would make a nice destination for hikers if a hiking trail is created here.



Hidden pond

The field next to the pond is attractive and can be maintained as meadow by brush hogging it annually, preferably during winter when wildlife is less active.



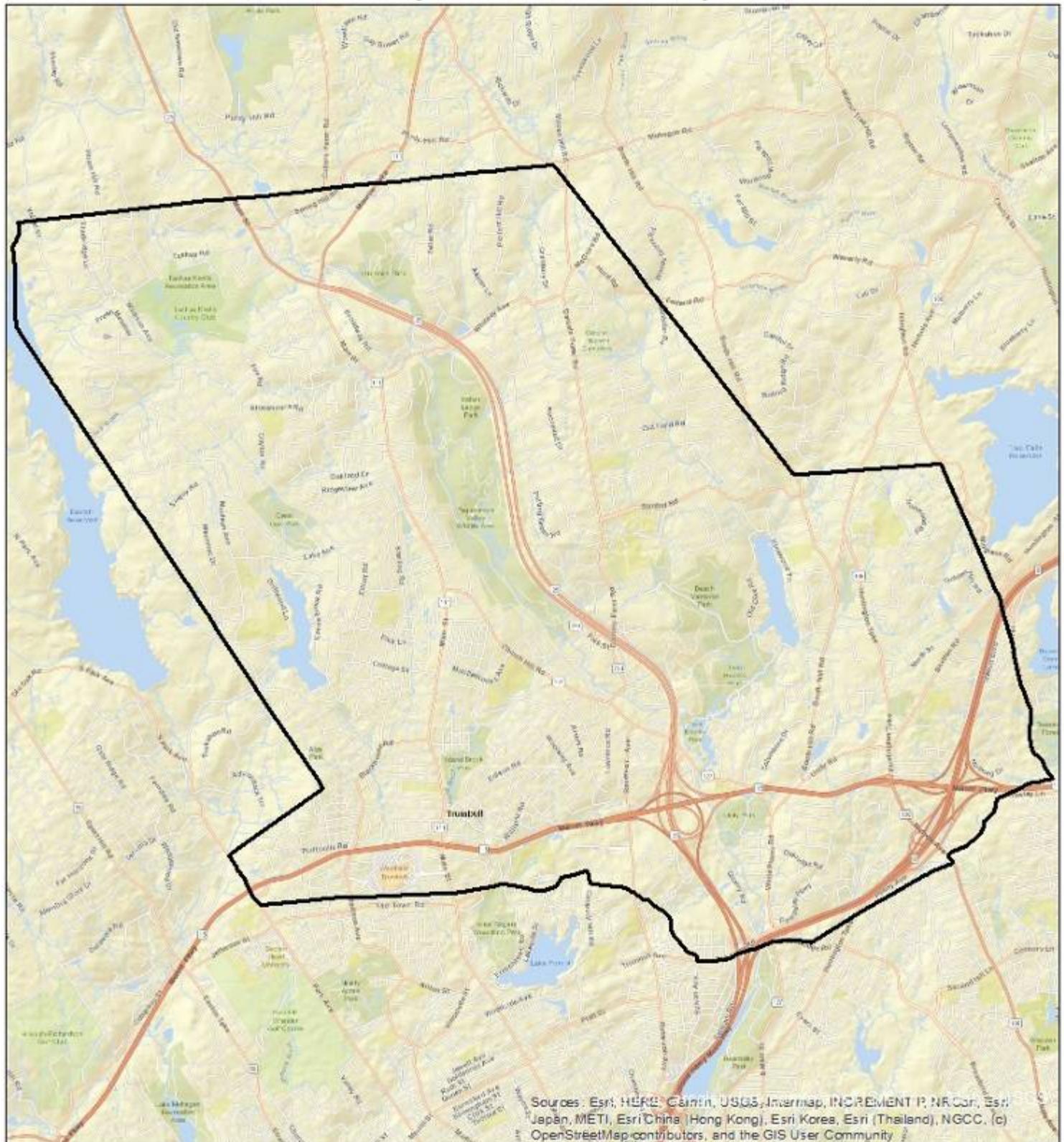
Field by pond

A bridge crossing the stream connects the field and pond to the larger field and if repaired, could be part of a trail system extending from the entrance driveway to the field and pond, across the bridge to the large field, up the hill and through the woods and across the power lines to the boulder-filled gorge in the north part of the Bill property, ending at the Visitors' Center.



Old bridge connecting fields

# Mary Bill Location Map



0

0.5

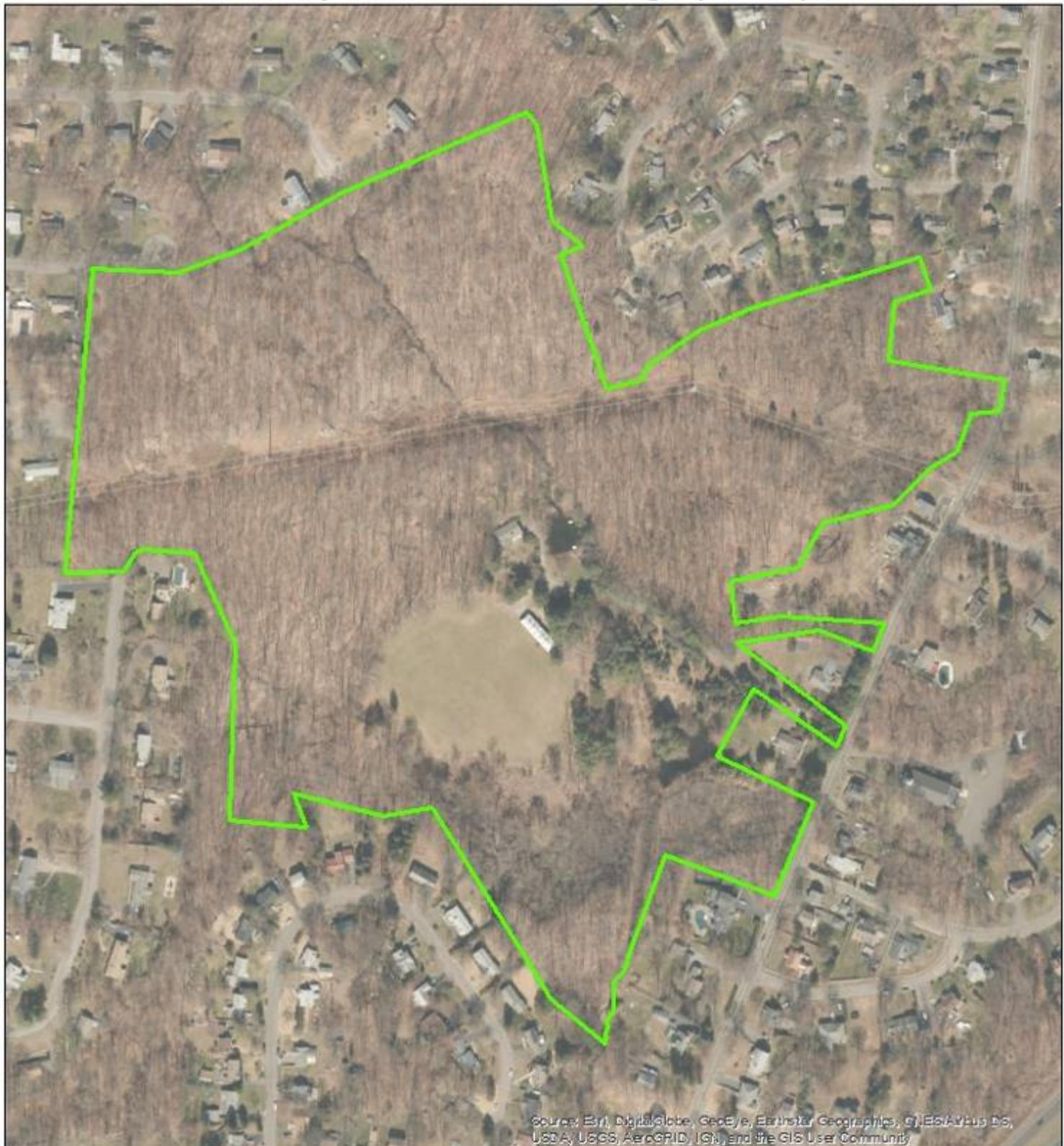
1

2 Miles

1 inch = 4,493 feet



# Mary Bill Satellite Photograph Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

 Mary Bill Boundary



1 inch = 297 feet

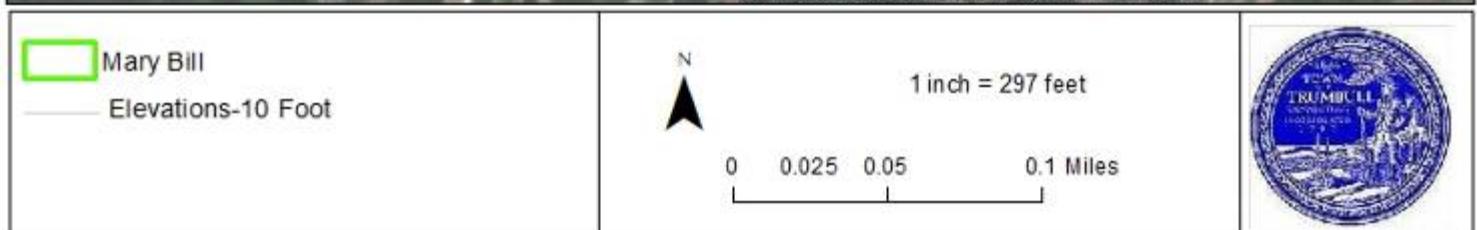
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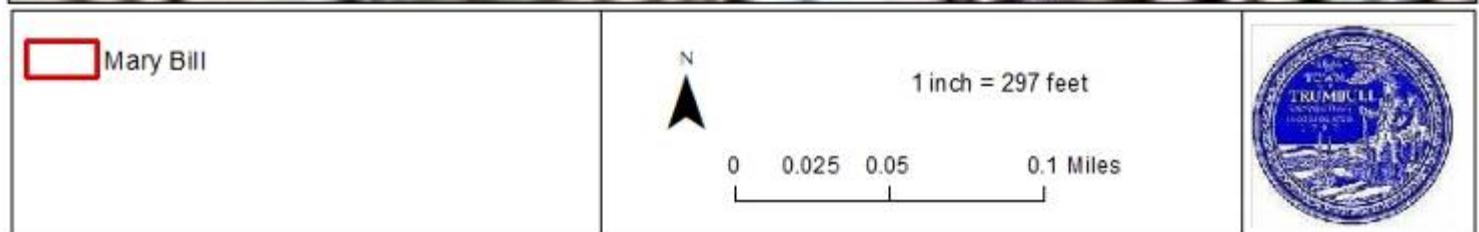
## Mary Bill Elevations Map



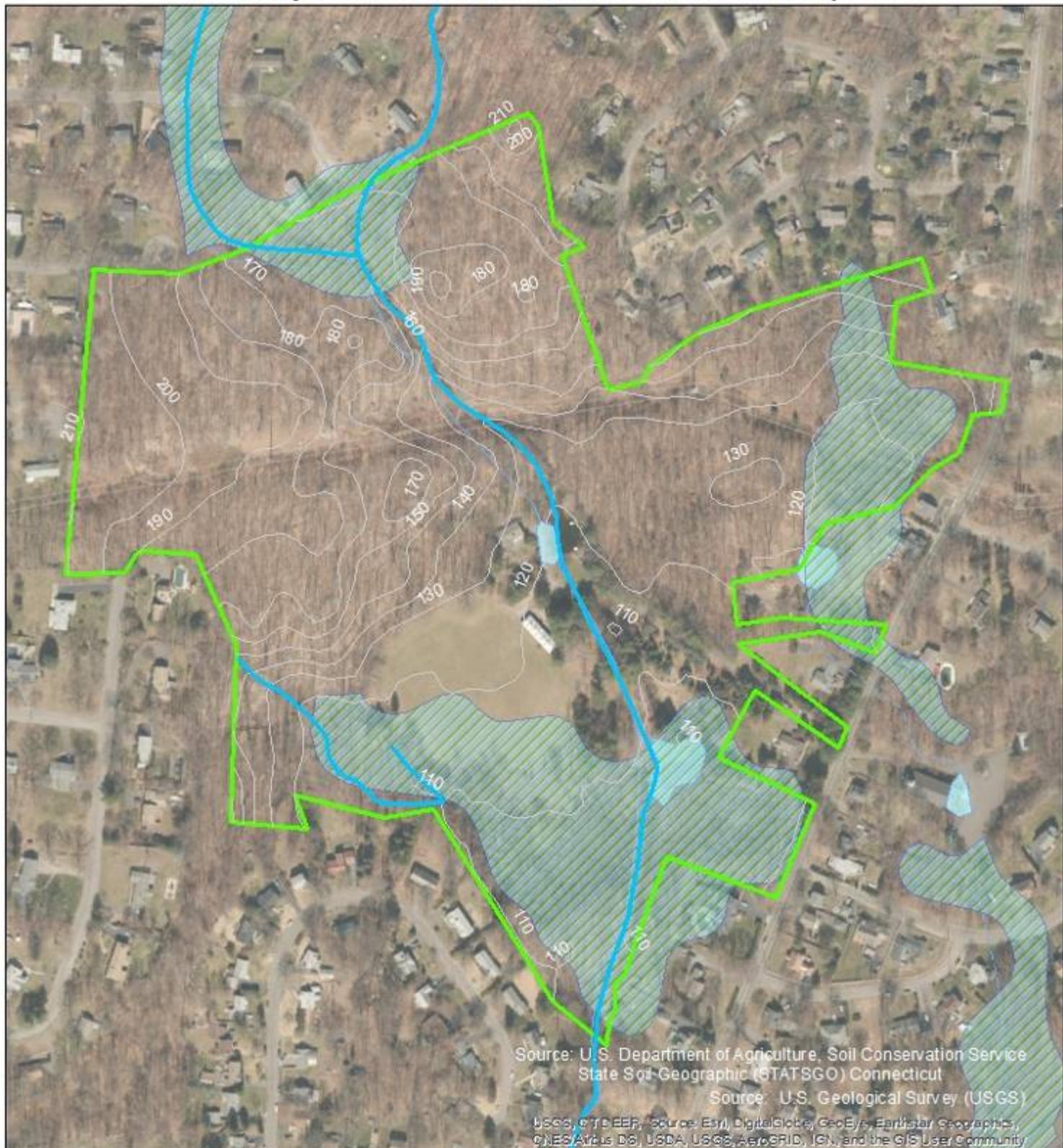
Sources: Esri, Maxar, SeeByn, Esri, Esri, HERE, DigitalGlobe, USDA/USDA/NASS, USGS, AeroGRID, IGN, and the GIS User Community



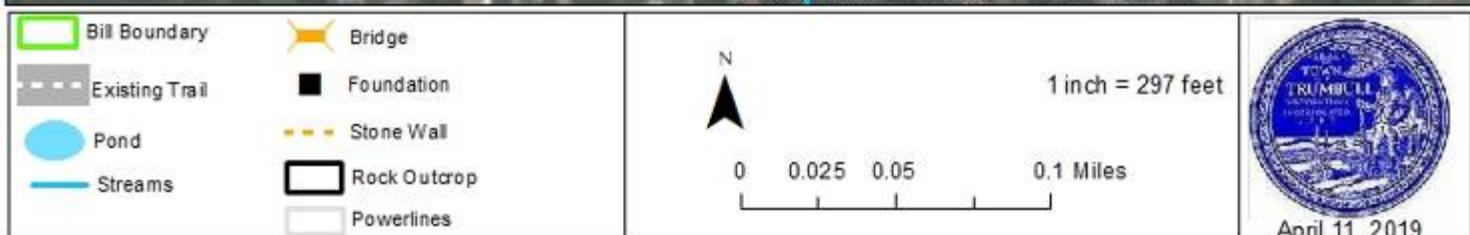
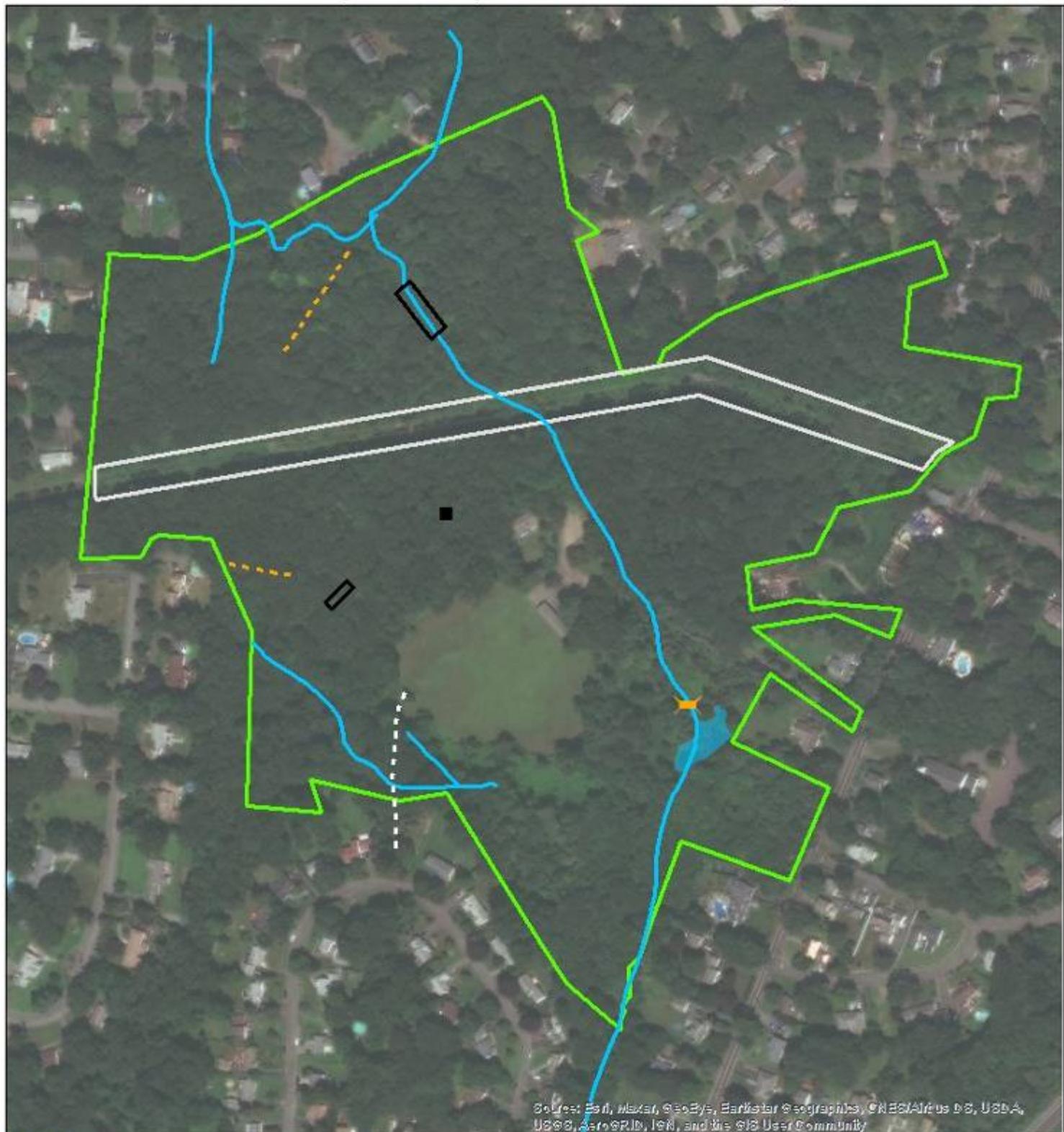
# Mary Bill Topographic Map



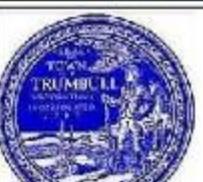
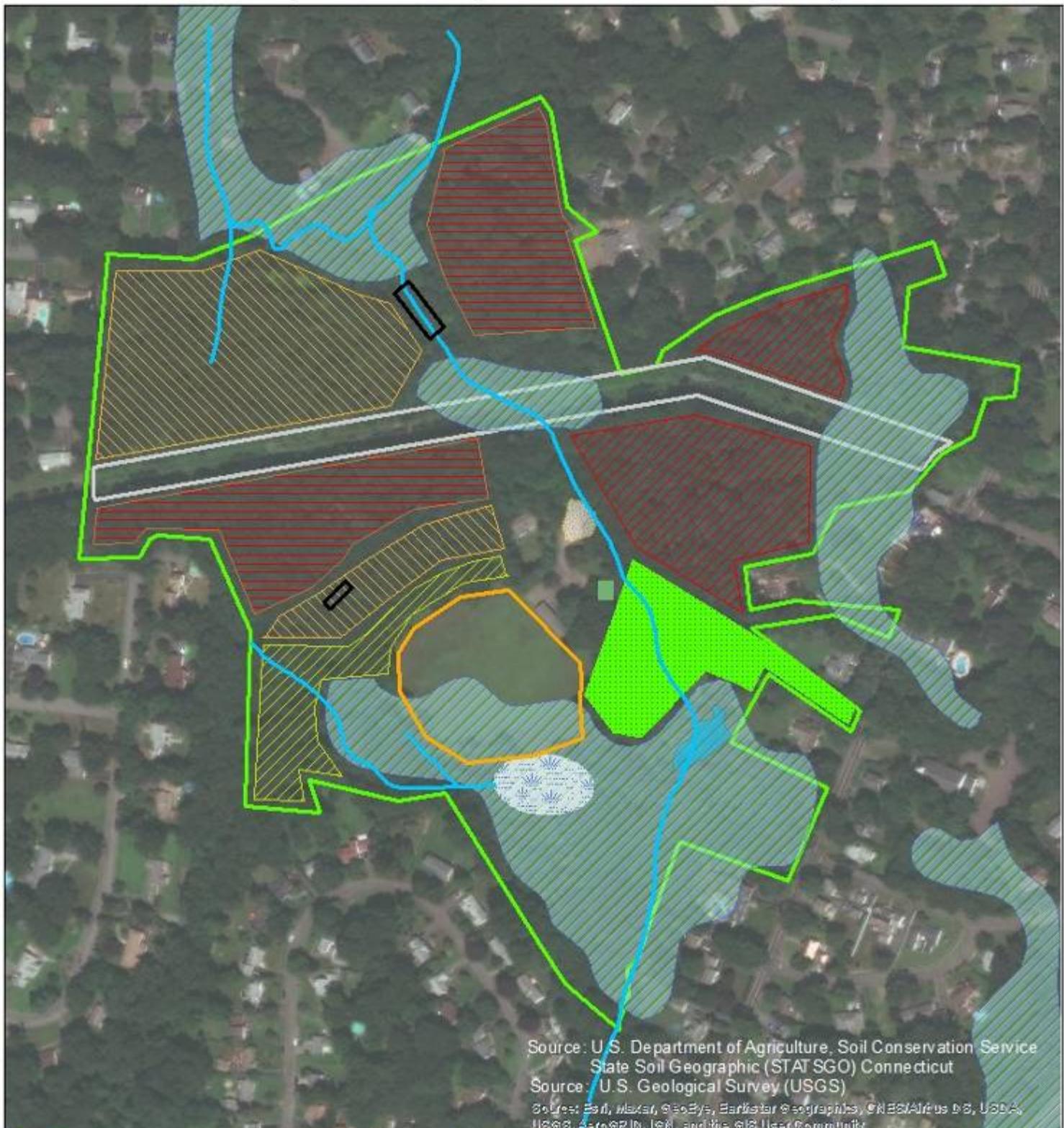
# Mary Bill Environmental Features Map



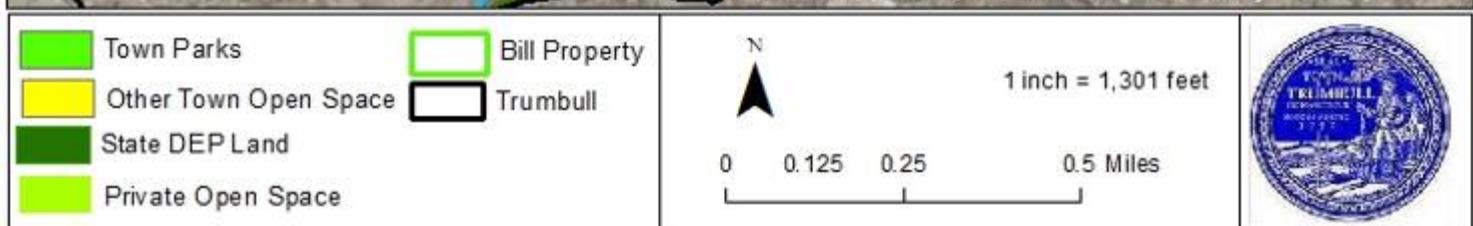
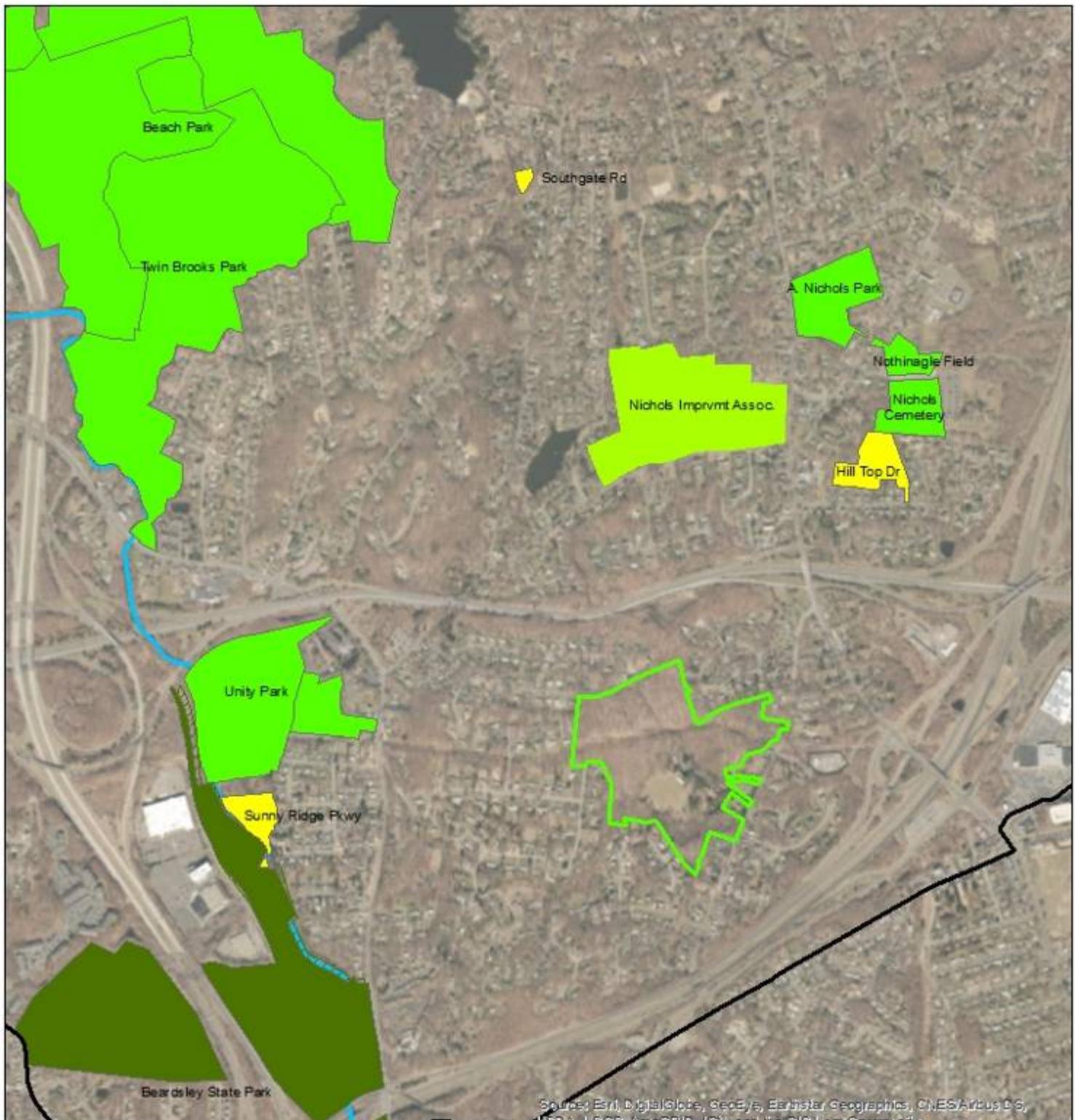
# Mary Bill Physical Features Map



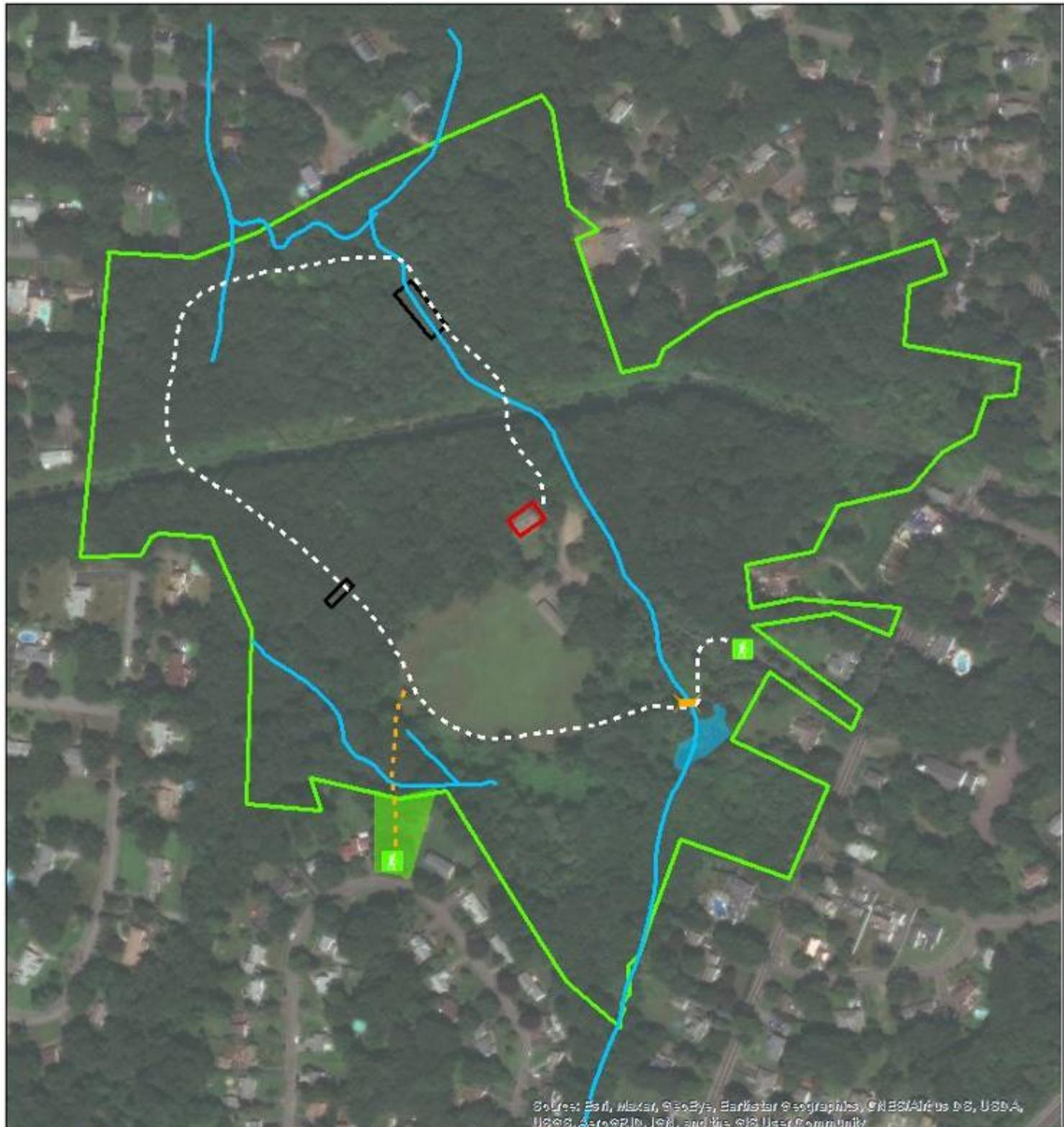
# Mary Bill Ecological Communities Map



# Mary Bill Surrounding Open Space Map



# Mary Bill Future Trails Map



Source: Esri, Maxar, GeoBasis, Barkster Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



## THREATS:

- Development/depositing of fill by town
- Lack of land regulation/enforcement
- Invasive porcelain berry, knotweed, ailanthus, mugwort, burning bush, barberry and bittersweet vines in wetland
- Deer browse
- Litter-property is well maintained now and litter-free

## RECOMMENDATIONS:

- Education-Park ranger's off ice with its many nature specimens, butterfly collection, pictures and posters can be used for environmental education and as a Visitor's Center
- Trails-create loop trail through property, connecting streams and gorge in north and pond in south to ranger's office. Connect to existing trail at entrance at Round Hill Road. Add blazes and signage
- Repair footbridge connecting pond and fields
- Create meadows rather than lawn by brush hogging a portion of the field once every year rather than mowing regularly to increase biodiversity/decrease labor and fossil fuel costs to town
- Brush hog smaller field in south next to pond every year or so to maintain meadow
- Refrain from further dumping of fill
- Streambank restoration-restore filled in pond by planting native trees, shrubs and wildflowers on the embankment
- Add educational signs about streambank restoration/native plants
- Monitor/remove invasive plants including porcelain berry in open wet meadow
- Cut bittersweet vines growing up on trees west of the field
- Add wood duck boxes around pond, bluebird houses in fields
- Continue regulation/enforcement/training so this town property can highlight best management practices of land stewardship for visitors
- Monitor/Clean up any trash

## PLANT &amp; ANIMAL INVENTORY April 4, April 10, 2019 Field Surveys

**Trees:**

*Acer platanoides* (Norway maple)  
*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Ailanthus altissima* (tree of heaven)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carpinus caroliniana* (ironwood)  
*Carya cordiformis* (bitternut hickory)  
*Carya ovata* (shagbark hickory)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Ilex opaca* (American holly)  
*Juglans nigra* (black walnut)  
*Juniperus virginiana* (red cedar)  
*Liriodendron tulipifera* (tulip tree)  
*Nyssa sylvatica* (tupelo)  
*Picea abies* (Norway spruce)  
*Picea glauca* (white spruce)  
*Pinus resinosa* (red pine)  
*Pinus strobus* (white pine)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus bicolor* (swamp white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Salix spp.* (willow)  
*Sassafras albidum* (sassafras)  
*Thuja occidentalis* (northern white cedar)  
*Tsuga canadensis* (eastern hemlock)  
*Ulmus americana* (American elm)

**Shrubs:**

*Alnus serrulata* (smooth [common] alder)  
*Elaeagnus umbellata* (autumn olive)  
*Euonymus alatus* (winged euonymus)  
*Gaultheria procumbens* (wintergreen, teaberry)  
*Ilex verticillata* (winterberry)  
*Lindera benzoin* (spicebush)  
*Rhododendron maximum* (rhododendron)  
*Rosa multiflora* (multiflora rose)  
*Salix discolor* (pussy willow)

**Vines:**

*Ampelopsis brevipedunculata* (porcelain berry)  
*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Toxicodendron radicans* (poison ivy)  
*Vitis sp.* (grape)

**Sedges & Rushes:**

*Carex pensylvanica* (Pennsylvania sedge)

**Grasses:**

*Schizachyrium scoparium* (little bluestem) **twisted awn**

*Phragmites australis* (giant reed grass)

**Ferns and allies:**

*Epifagus americana* (beech drops)

*Polystichum acrostichoides* (Christmas fern)

**Birds- observed April 4, 10, 2019:**

*Aix sponsa* (wood duck)

*Meleagris gallopavo* (wild turkey)

*Buteo jamaicensis* (red-tailed hawk)

*Buteo lineatus* (red-shouldered hawk)

*Melanerpes carolinus* (red-bellied woodpecker)

*Colaptes auratus* (yellow-shafted flicker)

*Picoides pubescens* (downy woodpecker)

*Cyanocitta cristata* (blue jay)

*Corvus brachyrhynchos* (American crow)

*Parus atricapillus* (black-capped chickadee)

*Parus bicolor* (tufted titmouse)

*Sitta carolinensis* (white-breasted nuthatch)

*Dumetella carolinensis* (gray catbird)

*Turdus migratorius* (American robin)

*Vermivora cyanoptera* (blue-winged warbler)

*Dendroica petechia* (yellow warbler)

*Agelaius phoeniceus* (red-winged blackbird)

*Quiscalus quiscula* (common grackle)

*Cardinalis cardinalis* (northern cardinal)

*Cardeulis tristis* (American goldfinch)

*Spizella passerina* (chipping sparrow)

*Melospiza melodia* (song sparrow)

July 9, 2019 Field Surveys

**CONSERVATION VALUES** include: Forests with some large trees 36 inches in diameter, hiking trails, wetlands, riparian zones, streams and seeps, greenways connecting to parcels in Town of Shelton and to Trapp Falls Reservoir, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

The 22-acre Kenneth S. Halaby Nature Preserve is located in the northeast corner of Trumbull and is owned by the Town of Trumbull (see Location Map page 368). The Preserve was originally owned by the Trumbull Land Trust and subsequently transferred to the Town, celebrated with a ribbon cutting on October 21, 2016.

The wooded and vacant 4-acre Town-owned Foxwood Road property lies directly to the north of the Preserve, across a private driveway (see Surrounding Open Space Map page 374). Two vacant parcels owned by the Town of Shelton lie to the east of the Property, across the Town line at Isinglass Road in Shelton. One to the northeast is 3.5 acres; the other to the east is a 2.6-acre parcel and these may provide access to the Preserve in the future. The large, 626-acre Trapp Falls Reservoir and the land surrounding it, is owned by Aquarion Water Company and is contiguous with the two Town of Shelton parcels and the Preserve.

The parcel is completely wooded with mature oak-hickory woods in higher, drier areas and tulip-red maple wetlands in the lower lying areas (see Satellite Photograph Map page 369). Elevations drop from a peak of 350 feet above sea level in the north section to 310



Preserve entrance and trailhead

feet in the southern section (see Elevations Map page 370). A rocky outcrop ridge runs along the Preserve's northwest boundary (see Topographic Map page 371). Approximately two-thirds of the Preserve is wetland. Two streams run north to south through the center of the Preserve flowing into two man-made ponds just beyond the Preserve boundaries (see Streams & Wetland Soils Map page 372).

A hiking trail runs from the entrance at Red Fox Lane for 1,500 feet through the center of the Preserve. Several well-maintained footbridges cross two streams and wetlands. The trail is marked with blazes. The trail has branches down in two areas that can be cleared and blazes can be added to mark the trail more clearly. A return trail could be blazed to loop back to the entrance, making a more interesting route for hikers (see Future Trails



Trail blaze on tulip tree

Map page 375). With permission from the Town of Shelton, the two Town of Shelton parcels along Isinglass Road could be used for access. These Shelton parcels connect to the Trapp Falls Reservoir to the east and may, with permission from the owner, Aquarion Water Company, also have hiking trails linking to the Preserve. Trails may also be made to the Trumbull-owned 4-acre parcel directly north of the Preserve, across the Trumbull Land Trust's 0.66-acre parcel across which a driveway runs. Another trail entrance could be made from Cherry Gate Lane through property now owned by Tice Brothers Building and Development LLC that owns a vacant, 5-acre parcel that is being developed into single family homes. This trail could hug the parcel's southern boundary, staying away from the home sites and, if mentioned during the subdivision process, could result in a permanent trail easement. Trail entrances could be added along Isinglass Road to the Trumbull Land Trust parcel and could be added at the end of Foxwood Road. If all of these potential trails are blazed, an additional 5,000 feet of hiking trails would be added, allowing access to the

homeowners along Cherry Gate Lane, Foxwood Road, Wildrose Lane and Isinglass Road in addition to current access from Red Fox Lane.

#### ECOLOGICAL COMMUNITIES:

Halaby Preserve has the following ecological communities (see Ecological Communities Map page 373 and Plant Inventory page 377):

Tulip-Red Maple Wetland 14.5 acres

Oak-Hickory Forest 6.5 acres

Rock Outcrop 1 acre

Tulip-Red Maple Wetland: 14.5 acres

These low, moist areas run along the north, central and southern portions of the Preserve and are made up of tulip trees-some very large at 30 inches in diameter-white ash, elms, red maple, tupelo (black gum), basswood and shagbark hickories with yellow birch and black birch in the understory. Other trees in the understory include ironwood, flowering dogwood and beech. Shrubs include spicebush and sweet pepperbush close to the streams and witch hazel in other places (see Plant Inventory page 14 for a list of all flora observed in July, 2019).

Skunk cabbage, jewelweed, fringed and tussock sedge, false hellebore, sensitive fern, royal fern, cinnamon fern, rough-leaved goldenrod, Jack in the pulpit, smartweed and arrow leaf tearthumb grow close to the streams and in the wetland areas with standing water. Surprisingly, very few invasive plants grow here or anywhere in the Preserve except for an occasional multi-flora rose, burning bush, bittersweet vine or stilt grass patch.



Triple-trunked tulip tree



One of several boardwalked stream crossings

## OAK-HICKORY FOREST: 6.5 acres

Oaks and hickory trees grow in the higher, drier sections of the Preserve. White oak, red oak, black oak, sugar maple, beech, bitternut and mockernut hickory, sassafras and black birch grow here. One beech is 36 inches in diameter while a white oak measured 33 inches in diameter-- indicating that these trees are well over 100 years of age. Most of the other trees average approximately 20 inches in diameter, putting their age at perhaps 70 to 80 years. The dominant shrub is witch hazel along with an occasional high bush blueberry and maple leaf viburnum shrub. Ground cover is sparse compared to the wetland areas and includes: wineberry, blackberry and dewberry; poison ivy, Virginia creeper and greenbriar vines, hog peanut, jumpseed, white wood aster, violets, Solomon's seal, enchanter's nightshade, New York, lady and Christmas ferns and woodland and seersucker sedge with drifts of Pennsylvania sedge in sunlit areas.



Pennsylvania sedge in sunlit opening

## ROCK OUTCROP: 1 acre

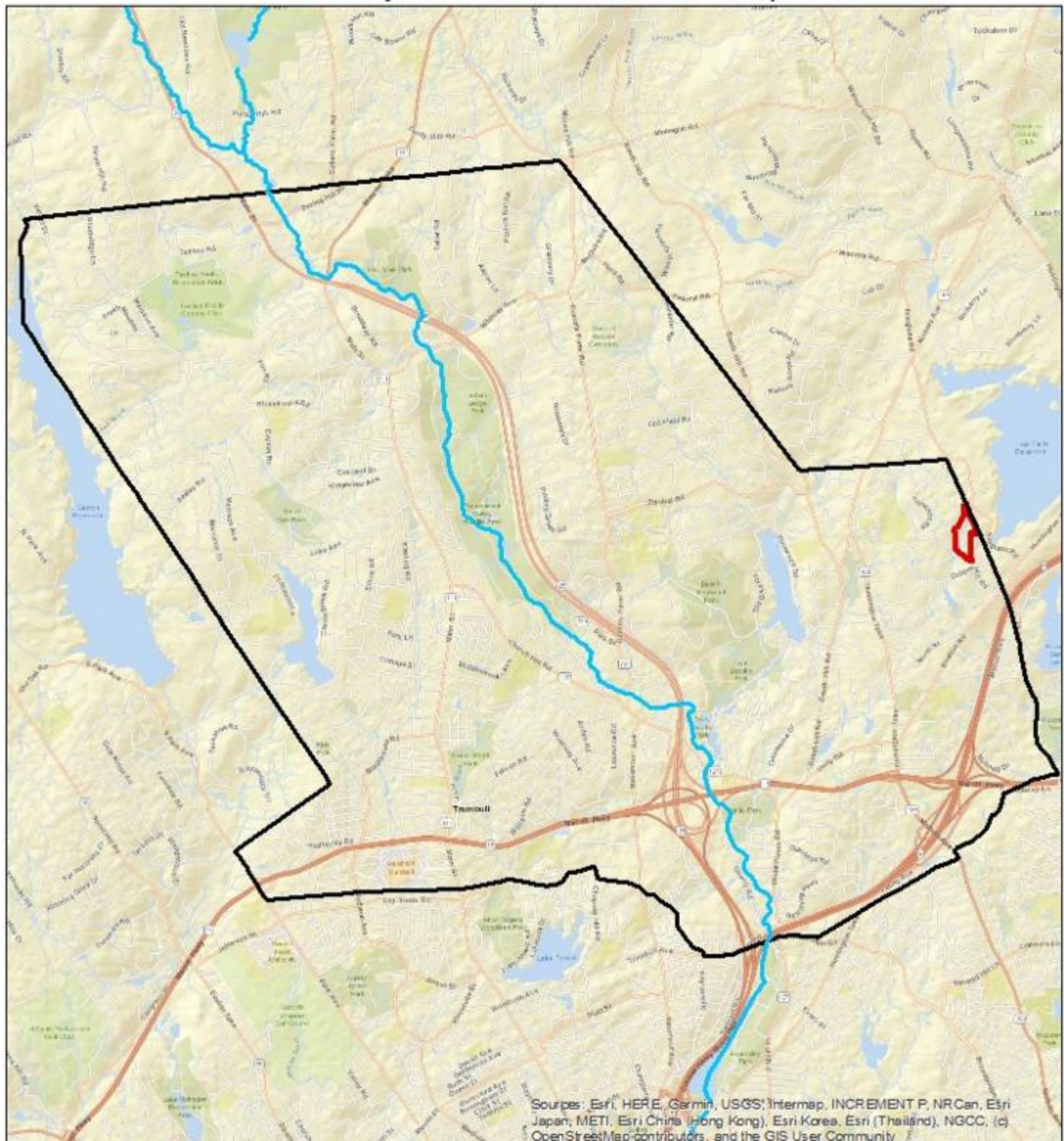
This community is found in the northwest section of the Preserve and, based on the stone walls found here, separated the farmland to the west from the wetlands of the Preserve. Sugar maples and beech are common here. The dead, though still-standing red cedar indicate that this area was quite sunny at one time, since red cedar only grow in sunlit areas. Shrubs include groves of low bush blueberry and occasional maple leaf viburnum. The ground layer consists of marginal, Christmas and hay scented fern, rock polypody, Pennsylvania sedge, partridgeberry, Canada mayflower, woodland sedge, cinquefoil, beech drops and deer tongue grass.

The differing vegetation found in these higher areas compares and contrasts nicely with the vegetation found in wetter areas and provides interest and beauty to visitors.

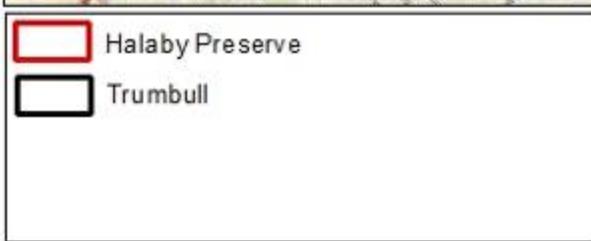


Rock outcrop

# Halaby Preserve Location Map



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



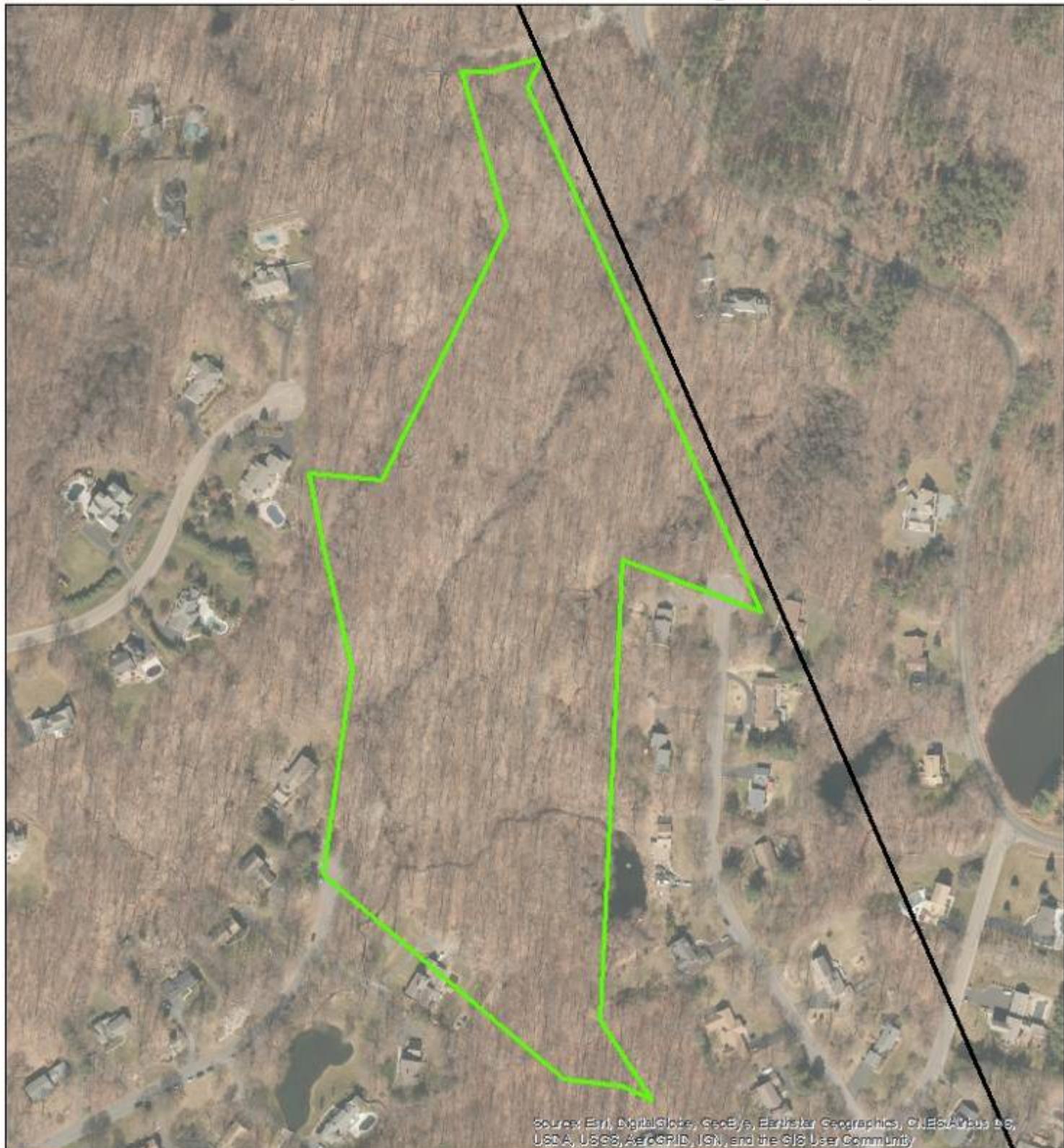
1 inch = 4,508 feet

0 0.5 1 2 Miles

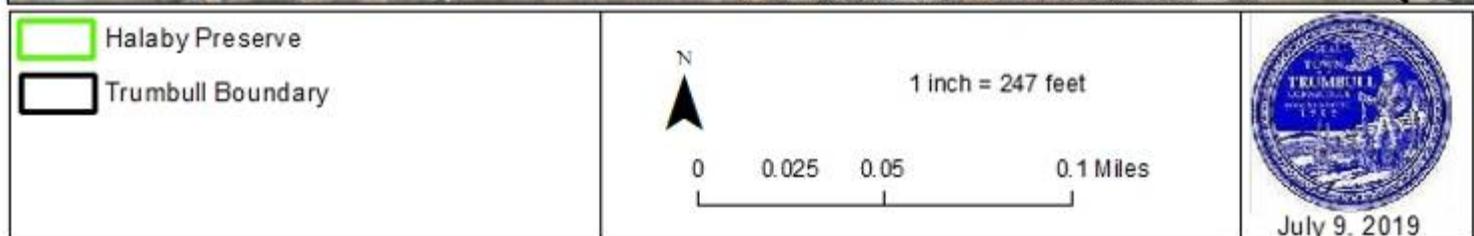


July 9, 2019

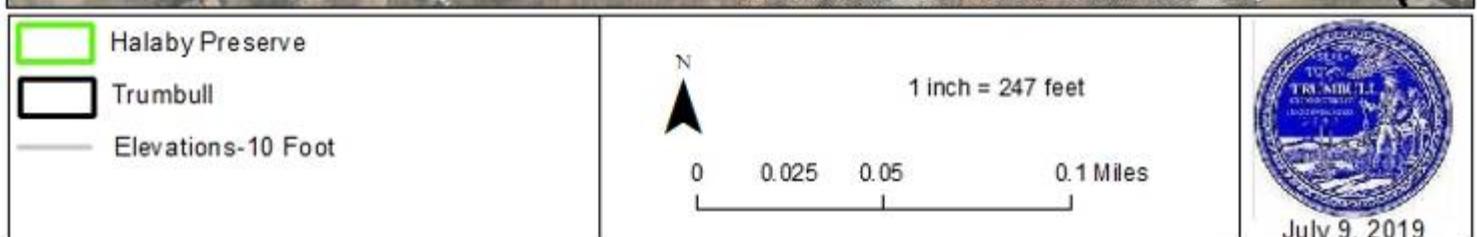
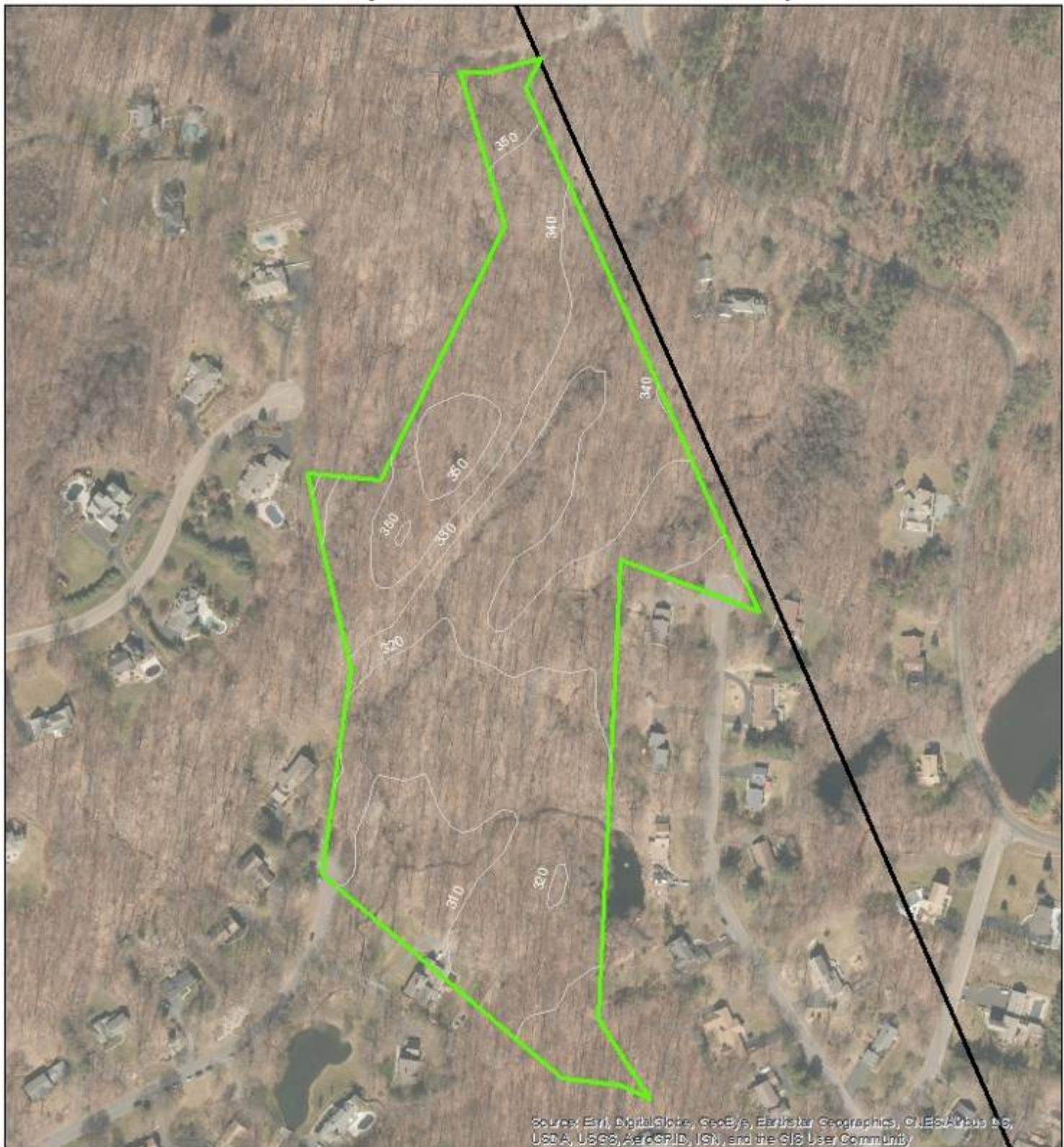
# Halaby Preserve Satellite Photograph Map



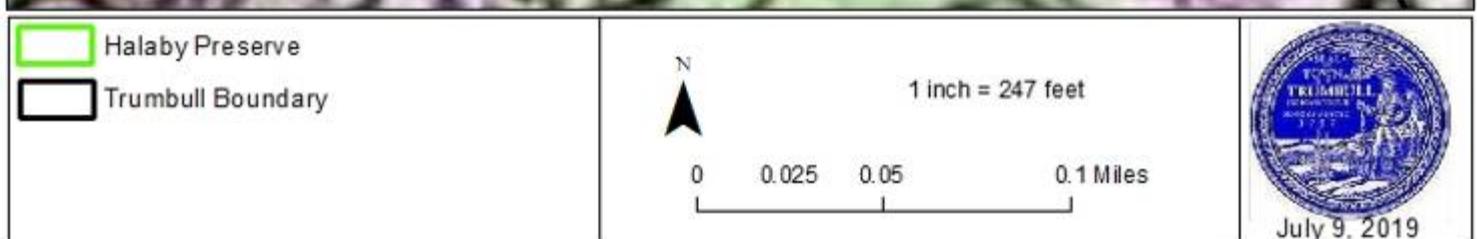
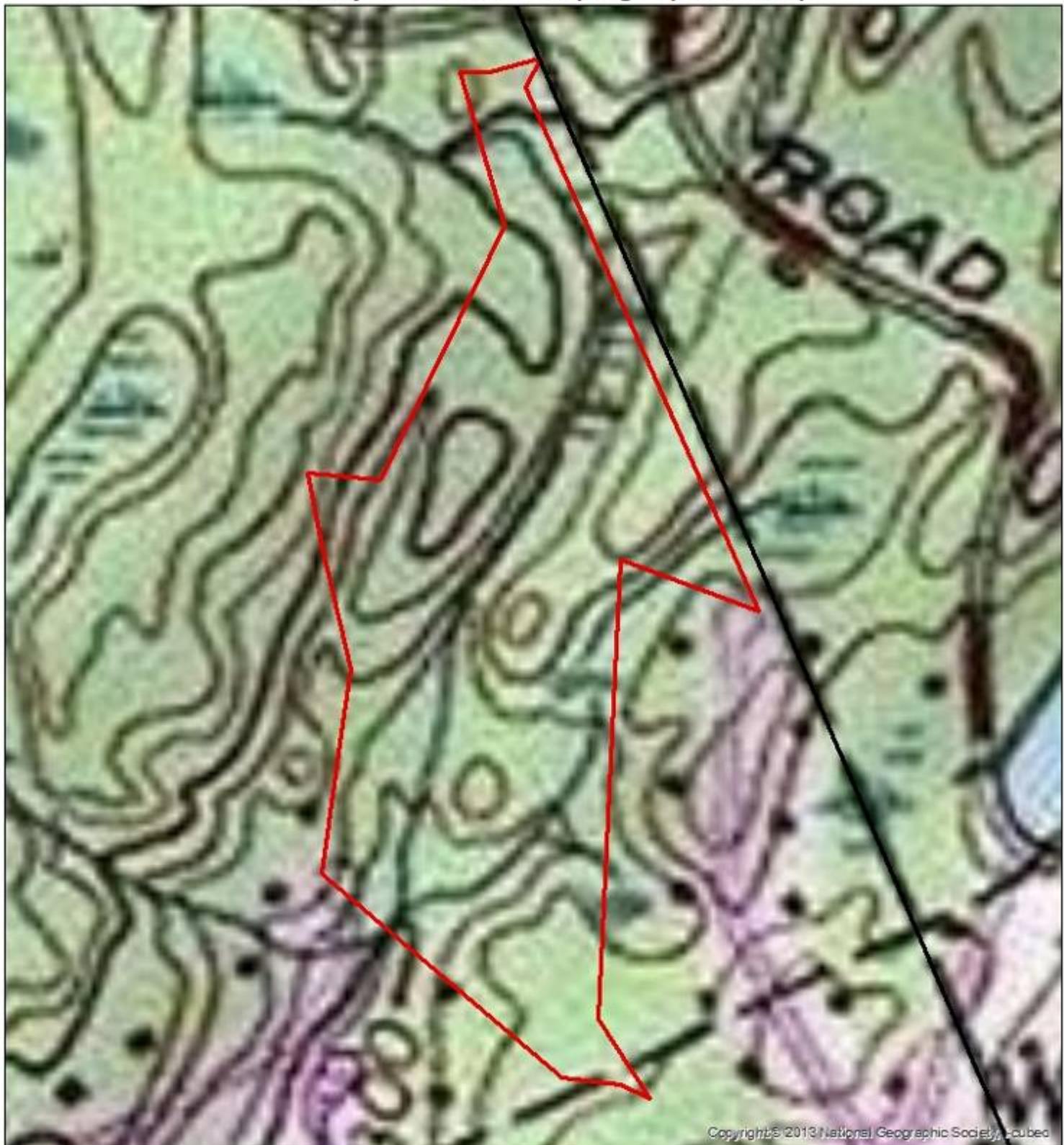
source: Esri, digitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



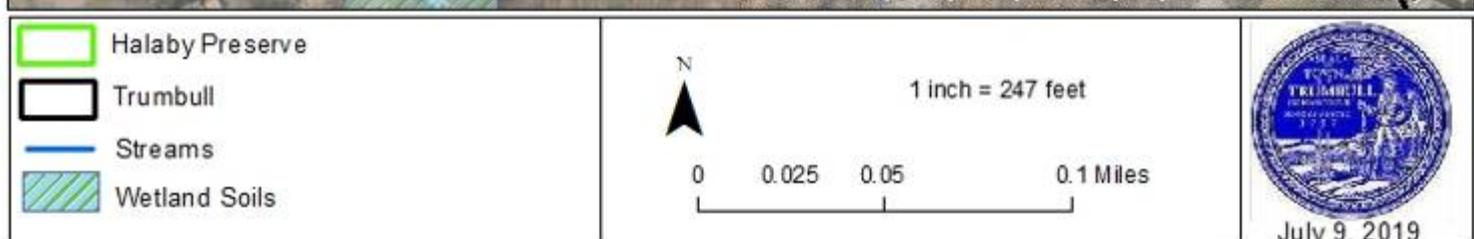
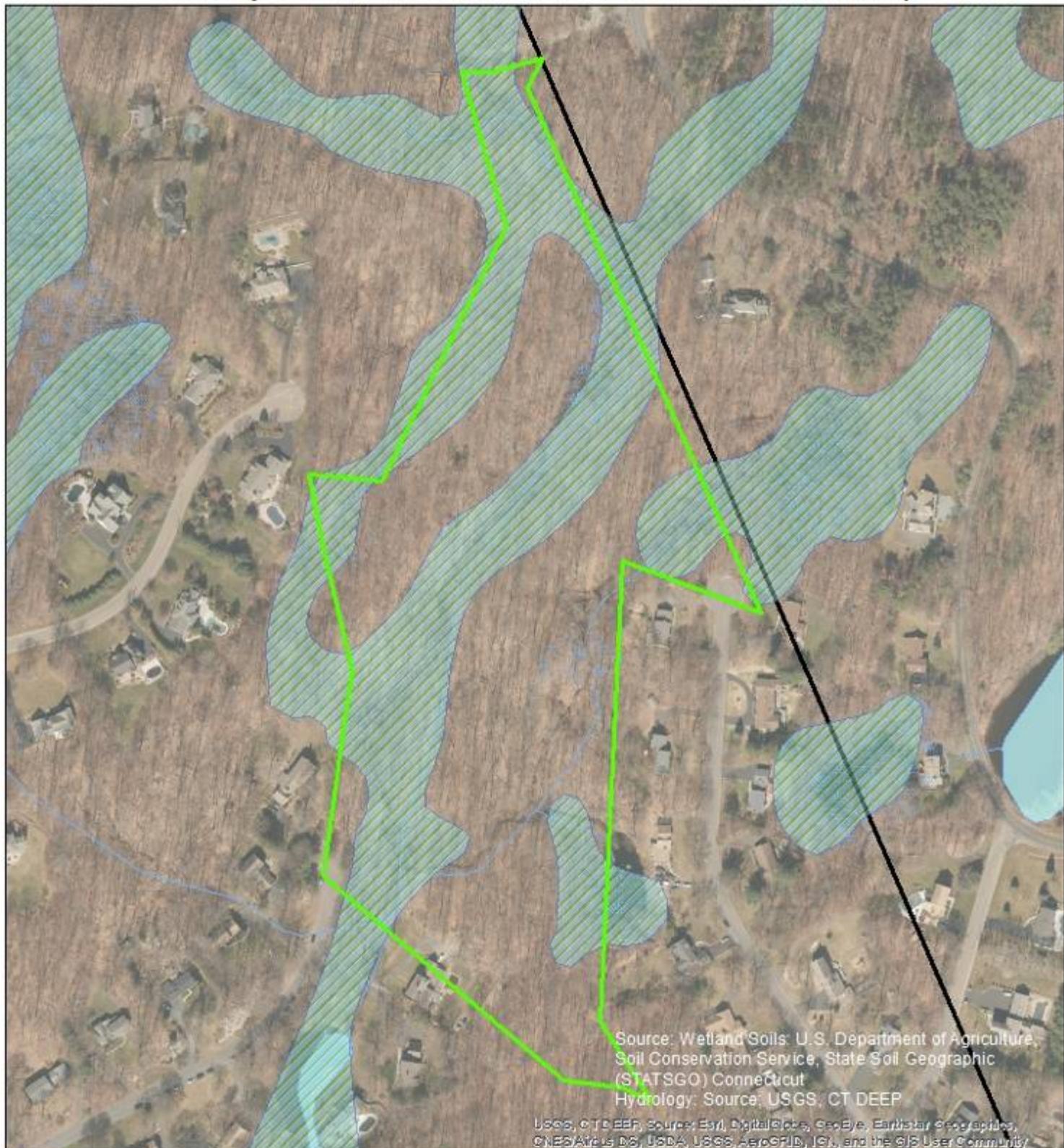
# Halaby Preserve Elevations Map



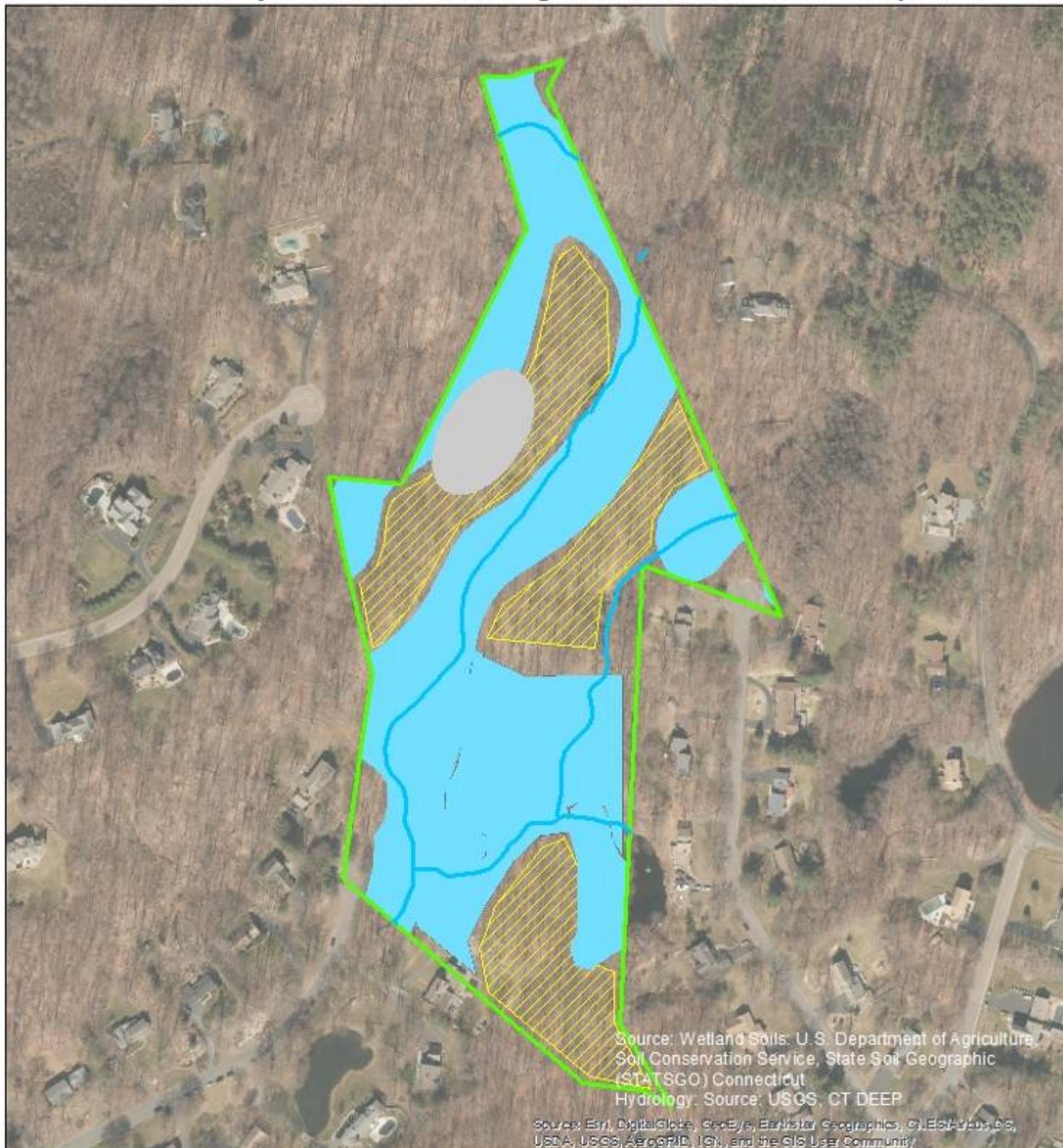
# Halaby Preserve Topographic Map



# Halaby Preserve Streams & Wetland Soils Map

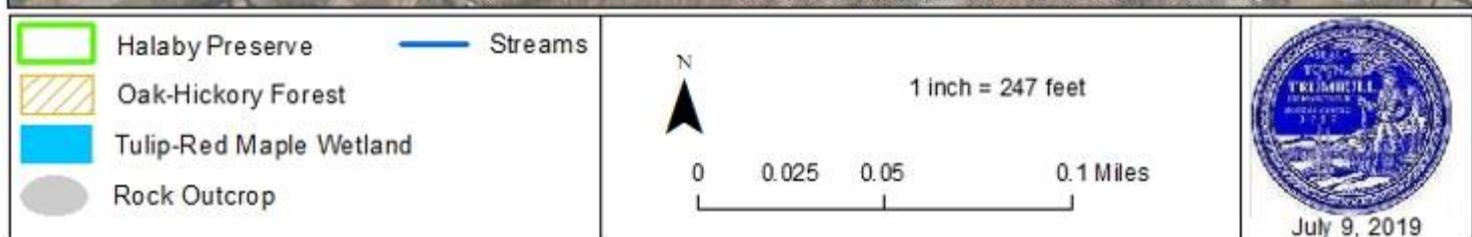


# Halaby Preserve Ecological Communities Map



Source: Wetland Soils: U.S. Department of Agriculture, Soil Conservation Service, State Soil Geographic (STATSGO) Connecticut  
Hydrology: Source: USGS, CT DEEP

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, i-Get, and the GIS User Community



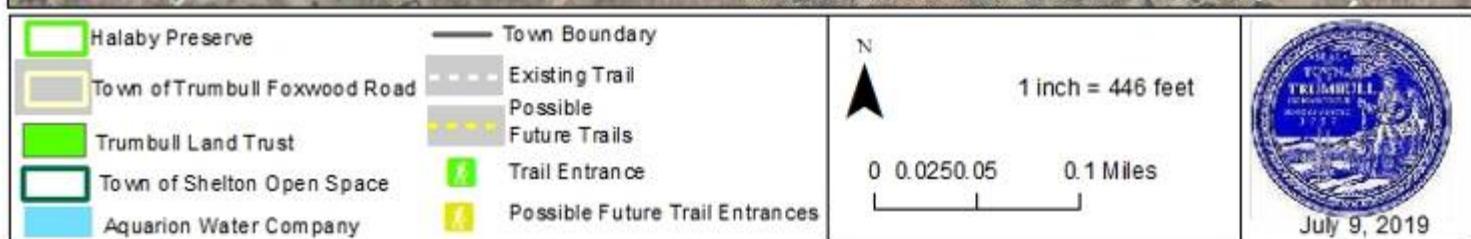
# Halaby Preserve Surrounding Open Space Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, JRC, and the GIS User Community



# Halaby Preserve Possible Future Trail Map



## THREATS:

- Water/stormwater pollution from streets
- Flooding
- Development of lot at end of Cherry Gate Lane
- Lack of Land Regulation/Enforcement
- Clearing by neighbors
- Deer browse
- Litter-Park is well maintained now and litter-free

## RECOMMENDATIONS:

- Monitor water quality
- Stormwater improvements to control stormwater erosion and pollution at culverts
- Acquire/protect permanently part of vacant lot on Cherry Gate Lane
- Maintain trails by clearing downed trees
- Add missing trail blazes
- Extend trails to Foxwood Road parcel to the north and to Town of Shelton properties to the east, with permission and then to Trapp Falls Reservoir, with permission
- Add trail entrances along Isinglass Road and at the end of Foxwood Road
- Signs with trail information and trail maps indicating that these trails are open to the public would encourage greater use
- Monitor/Clean up trash

## PLANT INVENTORY July 9, 2019 Field Survey

**Trees:**

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carpinus caroliniana* (ironwood)  
*Carya cordiformis* (bitternut hickory)  
*Carya ovata* (shagbark hickory)  
*Carya tomentosa* (mockernut hickory)  
*Cornus florida* (flowering dogwood)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Juniperus virginiana* (red cedar)-dead  
*Liriodendron tulipifera* (tulip tree)  
*Nyssa sylvatica* (tupelo)  
*Ostrya virginiana* (hophornbeam)  
*Pinus strobus* (white pine)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Sassafras albidum* (sassafras)  
*Tilia Americana* (basswood)  
*Ulmus americana* (American elm)

**Shrubs:**

*Clethra alnifolia* (pepperbush)  
*Euonymus alatus* (winged euonymus)  
*Hamamelis virginiana* (witch hazel)  
*Lindera benzoin* (spicebush)  
*Rosa multiflora* (multiflora rose)  
*Vaccinium angustifolium* (low-bush blueberry)  
*Vaccinium corymbosum* (high-bush blueberry)  
*Viburnum acerifolium* (maple leaf viburnum)  
*Viburnum dentatum* (arrowwood viburnum)

**Vines:**

*Amphicarpa bracteata* (hog peanut)  
*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Rubus flagellaris* (dewberry)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Alliaria petiolata* (garlic mustard)  
*Allium canadense* (wild onion)  
*Arisaema triphyllum* (Jack-in-the-pulpit)  
*Artemisia vulgaris* (common mugwort)  
*Aster divaricatus* (white wood aster)  
*Bidens frondosa* (common beggarticks)  
*Circaea lutetiana* (quadrisulcata) (enchanter's nightshade)  
*Fragaria virginiana* (wild strawberry)  
*Hackelia virginiana* (stickseed)  
*Impatiens capensis* (orange jewelweed)  
*Maianthemum canadense* (Canada mayflower)  
*Mitchella repens* (partridgeberry)  
*Polygonum arifolium* (halberd-leaved tearthumb)  
*Polygonatum biflorum* (true Solomon's seal)  
*Polygonum hydropiperoides* (mild water pepper)  
*Polygonum pensylvanicum* (smartweed)  
*Polygonum persicaria* (lady's thumb)  
*Polygonum virginianum* (Virginia knotweed/jumpseed)  
*Ranunculus acris* (common buttercup)  
*Rubus phoenicolasius* (wineberry)  
*Rubus* spp. (raspberry)  
*Sium suave* (water parsnip)  
*Solidago patula* (rough-leaved goldenrod)  
*Symplocarpus foetidus* (skunk cabbage)  
*Varatrum viride* (false hellebore)  
*Viola* sp. (violet)

**Sedges & Rushes:**

*Carex blanda* (woodland sedge)  
*Carex crinita* (fringed sedge)  
*Carex pensylvanica* (Pennsylvania sedge)  
*Carex plantaginea* (seersucker sedge)

**Grasses:**

*Microstegium vimineum* (stilt grass)  
*Panicum clandestinum* (deer-tongue grass)

**Ferns and allies:**

*Athyrium filix-femina* (lady fern)  
*Dennstaedtia punctilobula* (hay-scented fern)  
*Dryopteris marginalis* (marginal wood fern)  
*Epifagus americana* (beech drops)  
*Onoclea sensibilis* (sensitive fern)  
*Osmunda cinnamomea* (cinnamon fern)  
*Osmunda regalis* (royal fern)  
*Polypodium vulgare/ virginianum* (rock polypody, rock cap fern)  
*Polystichum acrostichoides* (Christmas fern)  
*Thelypteris noveboracensis* (New York fern)

## FOX ROAD

November 1, 2019 Field Survey

**CONSERVATION VALUES** include: Forests including several large trees 40 inches in diameter, wetlands and vernal pools, riparian zones, streams and seeps, greenways connecting Tashua Knolls Recreation Area with Aquarion properties and Old Tashua Tree Farm and Easton Reservoir, nesting sites and stop over sites for migrating birds, historic box turtle populations, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

Fox Road has 21.4 acres that are owned by the Town of Trumbull. It is located directly south of town-owned Tashua Knolls Golf Course. The parcel's eastern border runs along Fox Road (see Location Map page 383). 32 single family homes border the parcel to the south and east. It is accessible for hikers from Fox Road, though parking is difficult along Fox Road, and from Mayfair Place which has parking for several cars in the cul-de-sac. There are no clearly defined entrances or hiking trails and there are no signs posted declaring that this is open to the public but hiking trails could be established here.

Tashua Knolls Recreational Area is located just north and west of the parcel. It is 239 acres of golf course with some wooded areas. Aquarion owned water supply lands lie to the west of the parcel. The town-owned Old Tashua Tree Farm



Possible trail entrance at Mayfair Place



At least 4 historic stone walls run through the parcel

parcel is further to the west. Although boardwalking through very wet areas would be required, a 2-mile long hiking/cross country skiing trail could be made from Tashua Knolls all the way west to the Easton Reservoir through Fox Road and Old Tashua Tree Farm (see Surrounding Open Space Map page 388 and Hiking Trails Map page 389).

The Fox Road parcel is mostly wooded with oak-hickory and red maple swamp communities (see Satellite Photograph Map page 384 and Ecological Communities Map page 387). Two, 4-acre wetlands with a partially open canopy lie in the western third of the parcel (see Environmental Features Map page 385). These wetlands are the headwaters of the Chub Brook which runs west to the Easton Reservoir located 1 mile to the west. A large stand of invasive Japanese knotweed grows along the parcel's southwest boundary. Four historic stone wall runs along the northern and southern boundaries and north to south separating the wetlands--made by farmers to keep livestock out of the mucky soil and to delineate property lines.

The parcel, though relatively small, has three distinct knolls of 440 to 470 feet above sea level in elevation. Land slopes down to 400 feet in elevation at the wetlands and streams along the western boundary (see Topographic Map page 386 and Environmental Features Map page 385).

ECOLOGICAL COMMUNITIES:

The Fox Road parcel has the following ecological communities (see Ecological Communities Map page 387 and Plant Inventory page 391):

Oak-Hickory Forest	13 acres
Red Maple Swamp	8 acres

OAK-HICKORY FOREST 13 acres

This stand is located on the higher, drier central and eastern sections of the parcel. Medium to large sized black, red and white oaks--at least two were 36 inches and 40 inches in diameter--along with beech, tulip, mockernut and shagbark hickory, tupelo and a few small hemlocks grow above an understory of black birch, ironwood, hophornbeam and a lone, remnant red cedar (a time when this was open farmland). The shrub layer includes native witch hazel and maple leaf viburnum shrubs and non-native, invasive burning bush and barberry. The ground layer includes Christmas and intermediate wood fern, blackberry, shinleaf, wintergreen, white wood asters, woodland and seersucker sedge and Pennsylvania sedge. Several large bittersweet vines are choking trees near the wetlands. This mature forest canopy is very diverse while the understory is sparse due to deer predation--it is one of the only wooded areas in the neighborhood where deer can seek shelter.

RED MAPLE SWAMP: 8 acres

This stand is located in the far western section of the parcel. Trees here include medium-sized red maple, white ash, tulip and tupelo. Blueberry, winterberry and a large stand of buttonbush grow in the shrub layer. Several wet areas are possible vernal pools for breeding amphibians and reptiles. A box turtle shell was found here, a legacy of a time when this area was less developed with roads which now make it impossible for box turtles, which have a large home range, to survive. Box turtles are a species of Special Concern in Connecticut.



Vernal pool

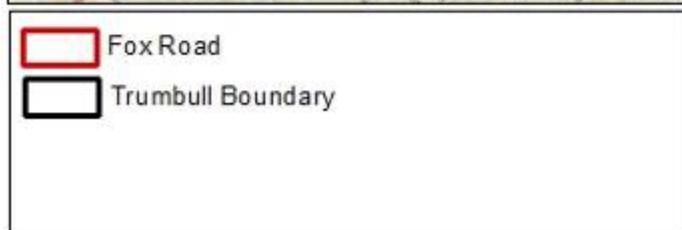
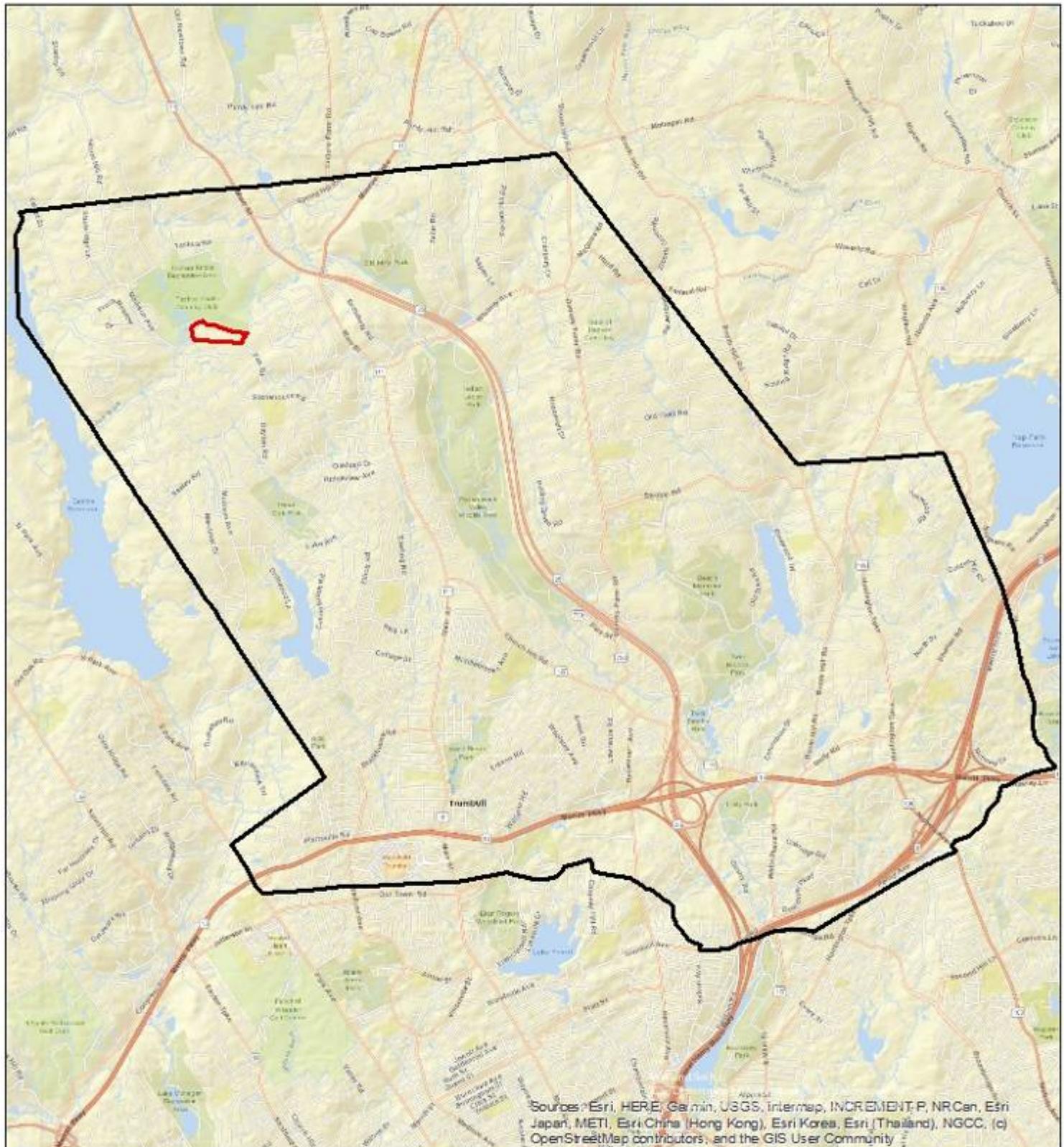


Larger 4-acre wetland



Box turtle shell, species of Special Concern in CT, can live up to 100 years but likely gone from this neighborhood because of the many roads

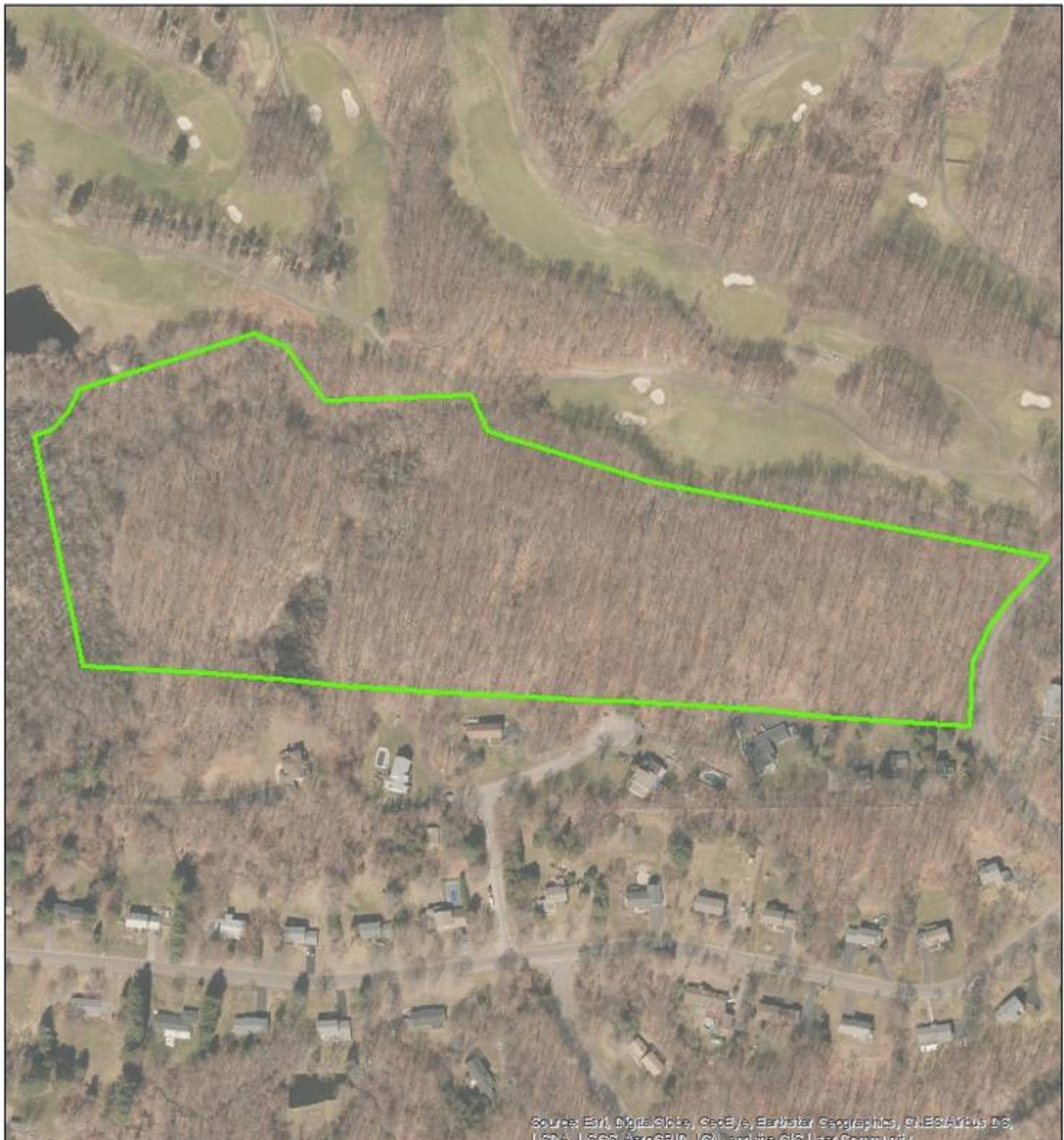
# Fox Road Location Map



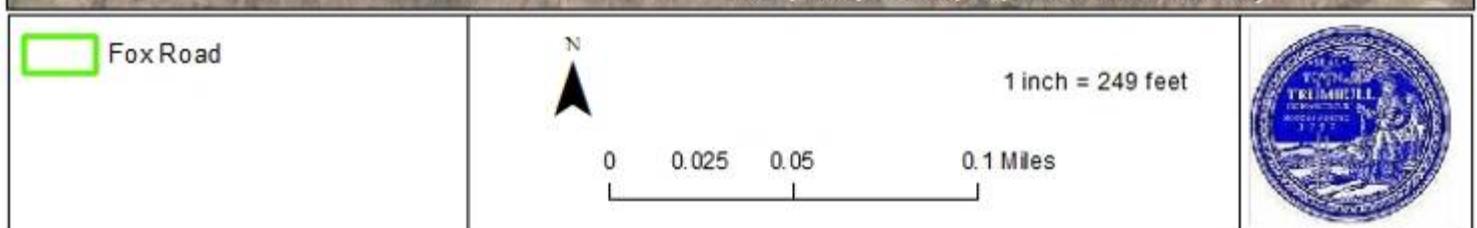
1 inch = 4,493 feet  
0 0.5 1 2 Miles



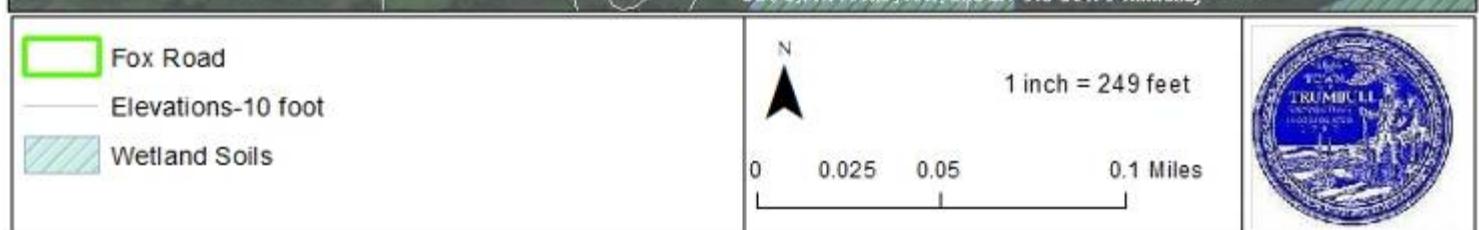
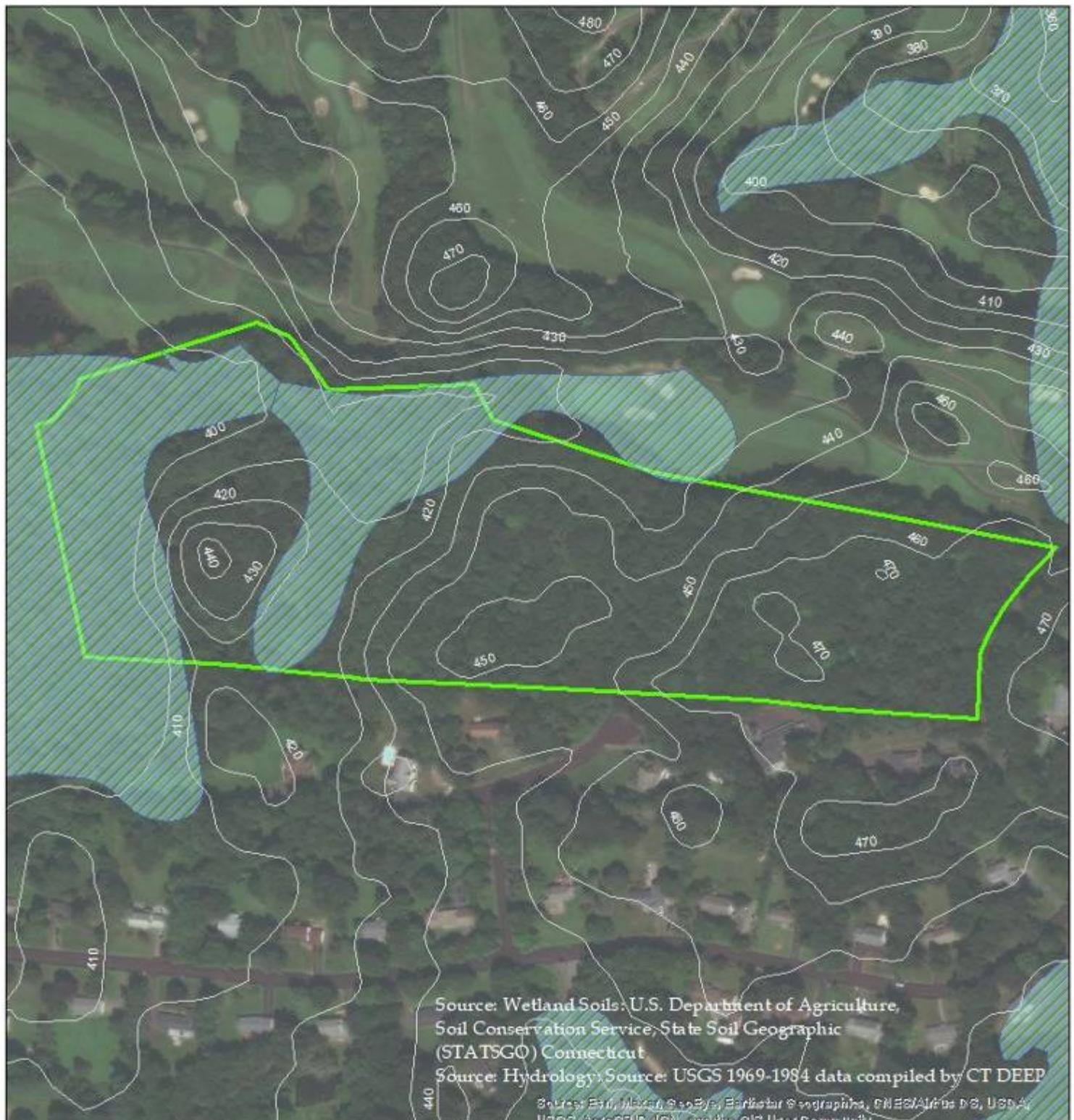
# Fox Road Satellite Photograph Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



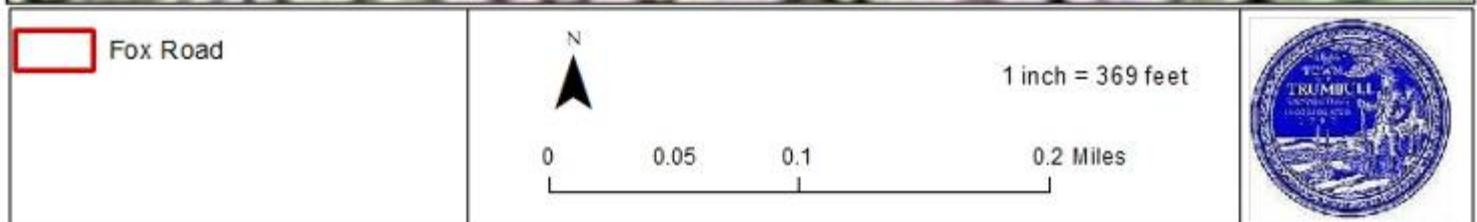
# Fox Road Environmental Features Map



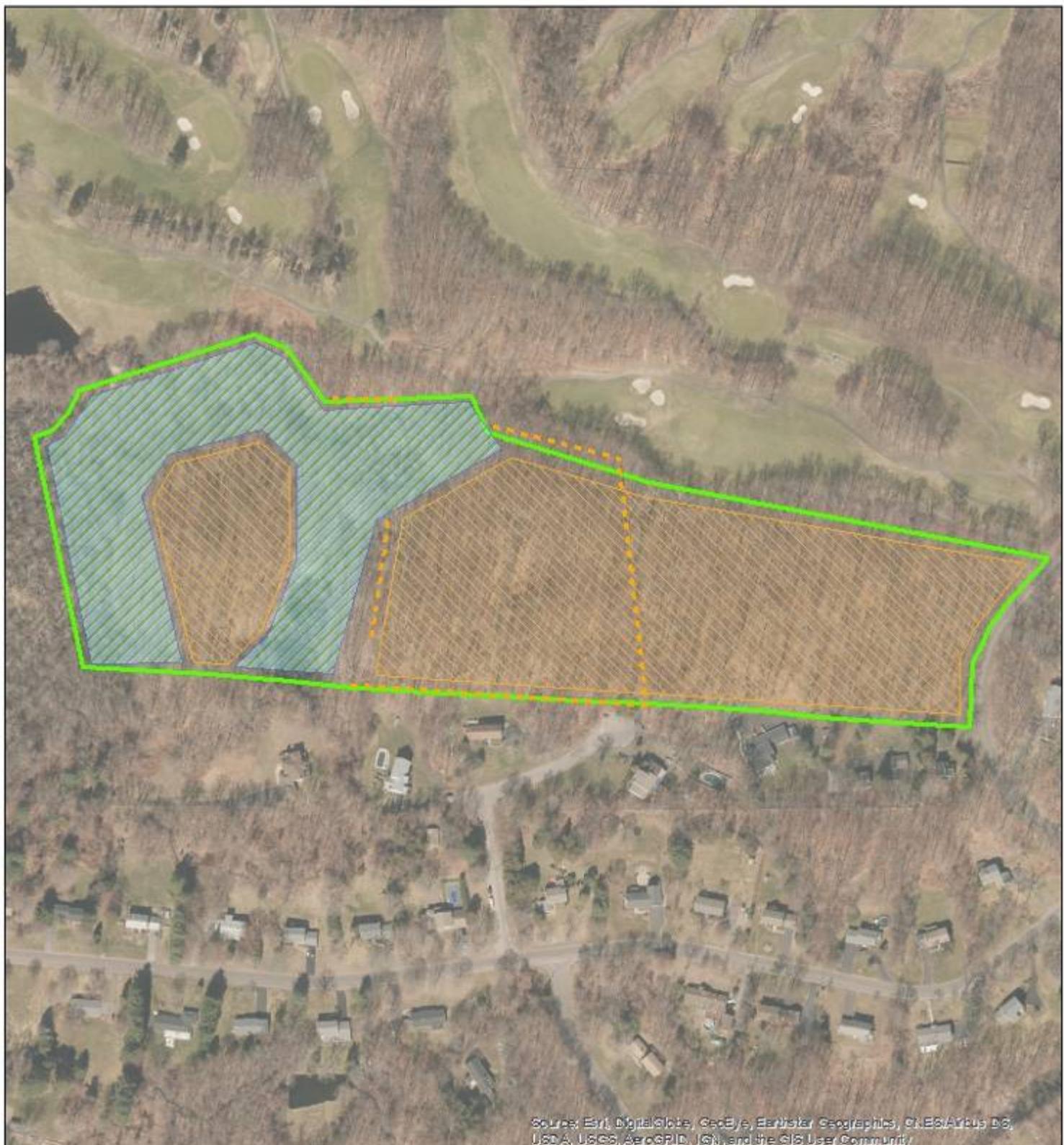
# Fox Road Topographic Map



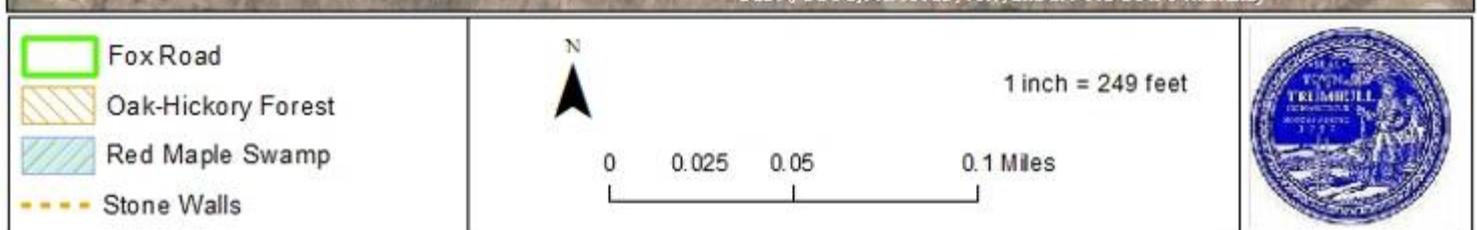
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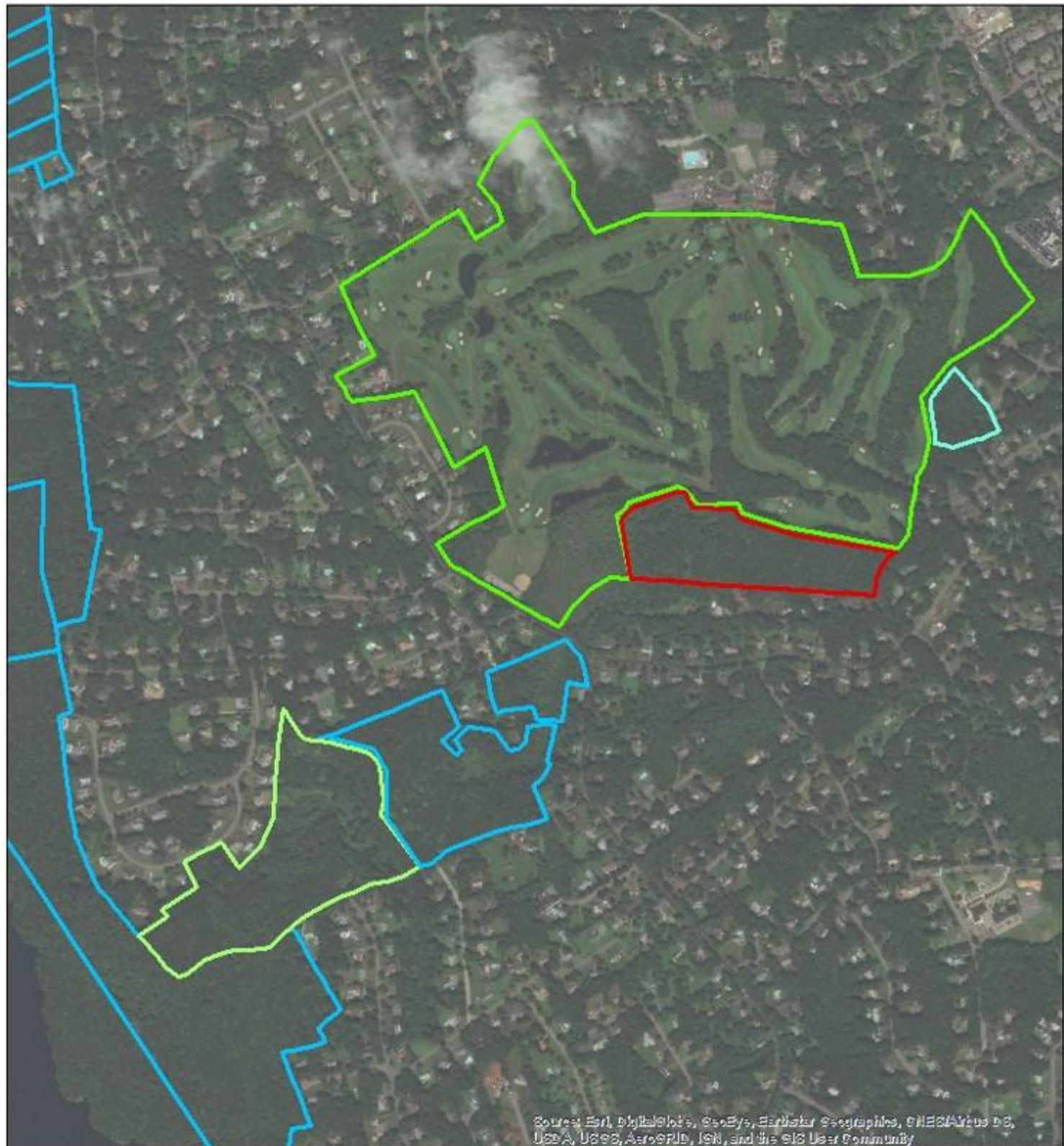
# Fox Road Ecological Communities Map



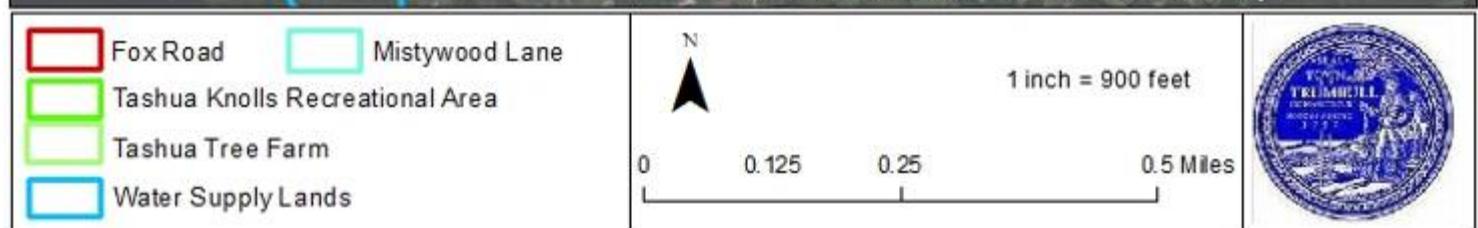
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# Fox Road Surrounding Open Space Map



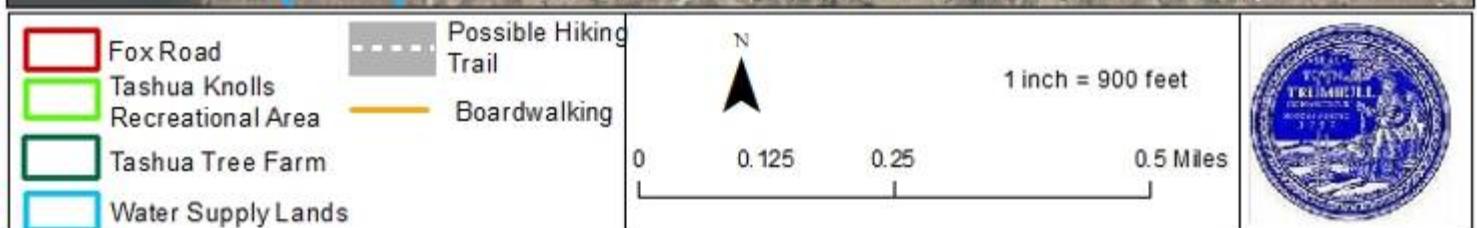
Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# Future Hiking Trail Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



## THREATS:

- Water/stormwater pollution from streets entering Chubb Brook and Easton Reservoir
- Clearing by neighbors/Golf Course
- Invasive Japanese knotweed stand
- Invasive barberry, burning bush, bittersweet vines
- Deer browse
- Litter-property is well maintained now and litter-free

## RECOMMENDATIONS:

- Monitor/remove invasive plants if spreading
- Cut invasive bittersweet vines growing up trees
- Monitor/Clean up trash

## PLANT &amp; WILDLIFE INVENTORY, NOVEMBER 1, 2019 Field Survey

**Trees:**

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carpinus caroliniana* (ironwood)  
*Carya ovata* (shagbark hickory)  
*Carya tomentosa* (mockernut hickory)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Juniperus virginiana* (red cedar)  
*Liriodendron tulipifera* (tulip tree)  
*Nyssa sylvatica* (tupelo)  
*Ostrya virginiana* (hophornbeam)  
*Populus deltoids* (cottonwood)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Sassafras albidum* (sassafras)  
*Tsuga canadensis* (eastern hemlock)  
*Ulmus americana* (American elm)

**Shrubs:**

*Berberis thunbergii* (Japanese barberry)  
*Cephalanthus occidentalis* (buttonbush)  
*Chimaphila maculata* (pipsissewa, spotted/striped wintergreen)  
*Euonymus alatus* (winged euonymus)  
*Hamamelis virginiana* (witch hazel)  
*Ilex verticillata* (winterberry)  
*Rubus phoenicolasius* (wineberry)  
*Rubus* spp. (blackberry)  
*Vaccinium corymbosum* (high-bush blueberry)  
*Viburnum acerifolium* (maple leaf viburnum)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Alliaria petiolata* (garlic mustard)  
*Arisaema triphyllum* (Jack-in-the-pulpit)  
*Aster divaricatus* (white wood aster)  
*Datura stramonium* (jimson weed, Jamestown weed)

*Fallopia japonica* (Japanese knotweed)  
*Impatiens capensis* (orange jewelweed)  
*Pilea pumila* (clearweed)  
*Polygonum pensylvanicum* (smartweed)  
*Pyrola elliptica* (shinleaf)  
*Symplocarpus foetidus* (skunk cabbage)

**Sedges & Rushes:**

*Carex blanda* (woodland sedge)  
*Carex grayii* (bur sedge)  
*Carex pensylvanica* (Pennsylvania sedge)  
*Carex plantaginea* (seersucker sedge)-common in woods, Christmas ribbon like leaves  
*Carex stricta* (tussock sedge)

**Ferns and allies:**

*Athyrium filix-femina* (lady fern)  
*Dryopteris intermedia* (intermediate wood fern)  
*Onoclea sensibilis* (sensitive fern)  
*Osmunda cinnamomea* (cinnamon fern)  
*Polystichum acrostichoides* (Christmas fern)  
*Thelypteris noveboracensis* (New York fern)

**Amphibians and Reptiles-**

*Terrapene carolina carolina* (eastern box turtle)-shell only

November 1, 2019 field survey

**CONSERVATION VALUES** include: Forests wetlands, floodplain forests, streams and seeps, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

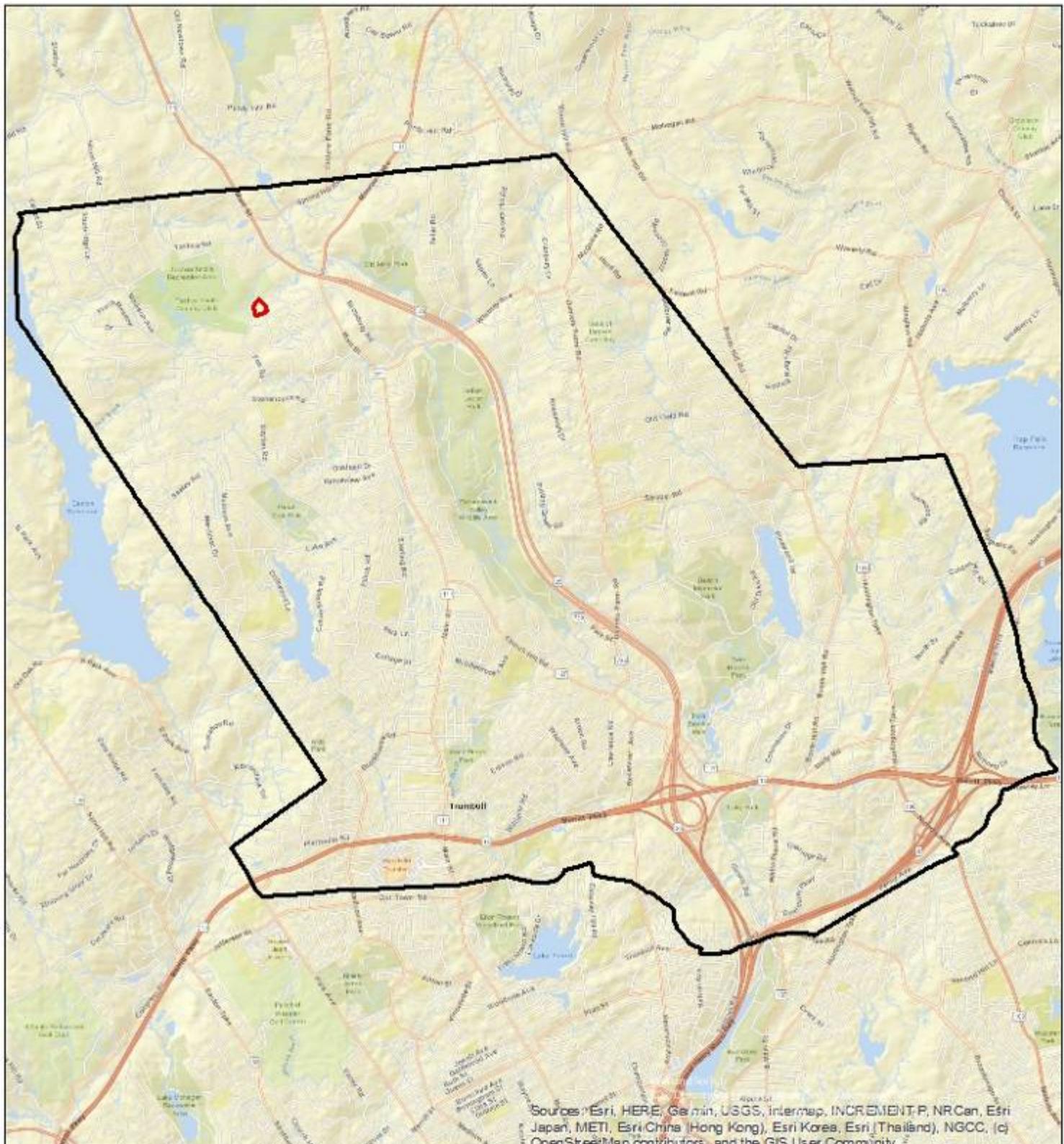
### PROPERTY DESCRIPTION:

This town-owned 4.5 acre parcel lies at the end of the Mistywood Lane cul-de-sac (see Location Map page 394). Stormwater flows from the road over an asphalt sluiceway into a man-made ditch that runs along the parcel's eastern boundary. 3.5 of the 4.5 acres are wetlands (see Environmental Features Map page 395). The Tashua Knolls Golf Course lies to the west; single family homes lie to the north, east and south (see Surrounding Open Space Map page 396). Much of the parcel's eastern section is land fill, most likely from the ditch. Neighbors appear to use this land for dumping their yard waste. There are no opportunities for trails given the standing water and small area. Despite this, many native trees and shrubs grow here including serviceberry, nannyberry viburnum, sweet pepperbush, high bush blueberry, spicebush and winterberry-all providing food and cover for birds, pollinators and other wildlife. The higher, drier southwestern 1 acre has white, red and black oak trees, witch hazel and maple leaf viburnum shrubs and Christmas and hay-scented fern.



Asphalt sluiceway draining stormwater into man-made ditch at entrance to parcel

# Mistywood Lane-Fox Road Location Map



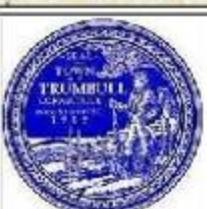
 Mistywood Lane-Fox Road

 Trumbull Boundary

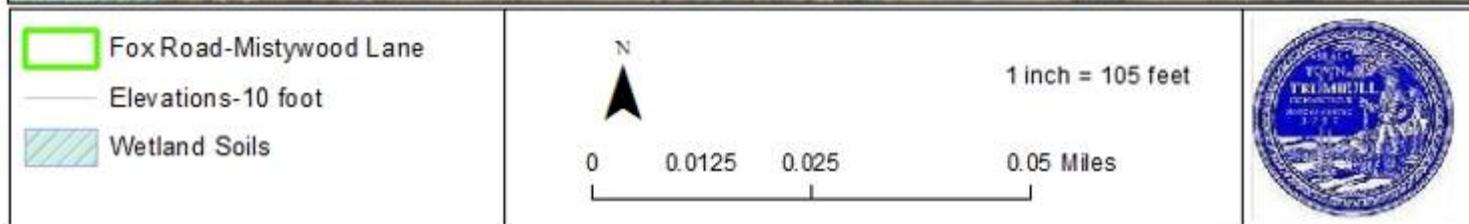


1 inch = 4,493 feet

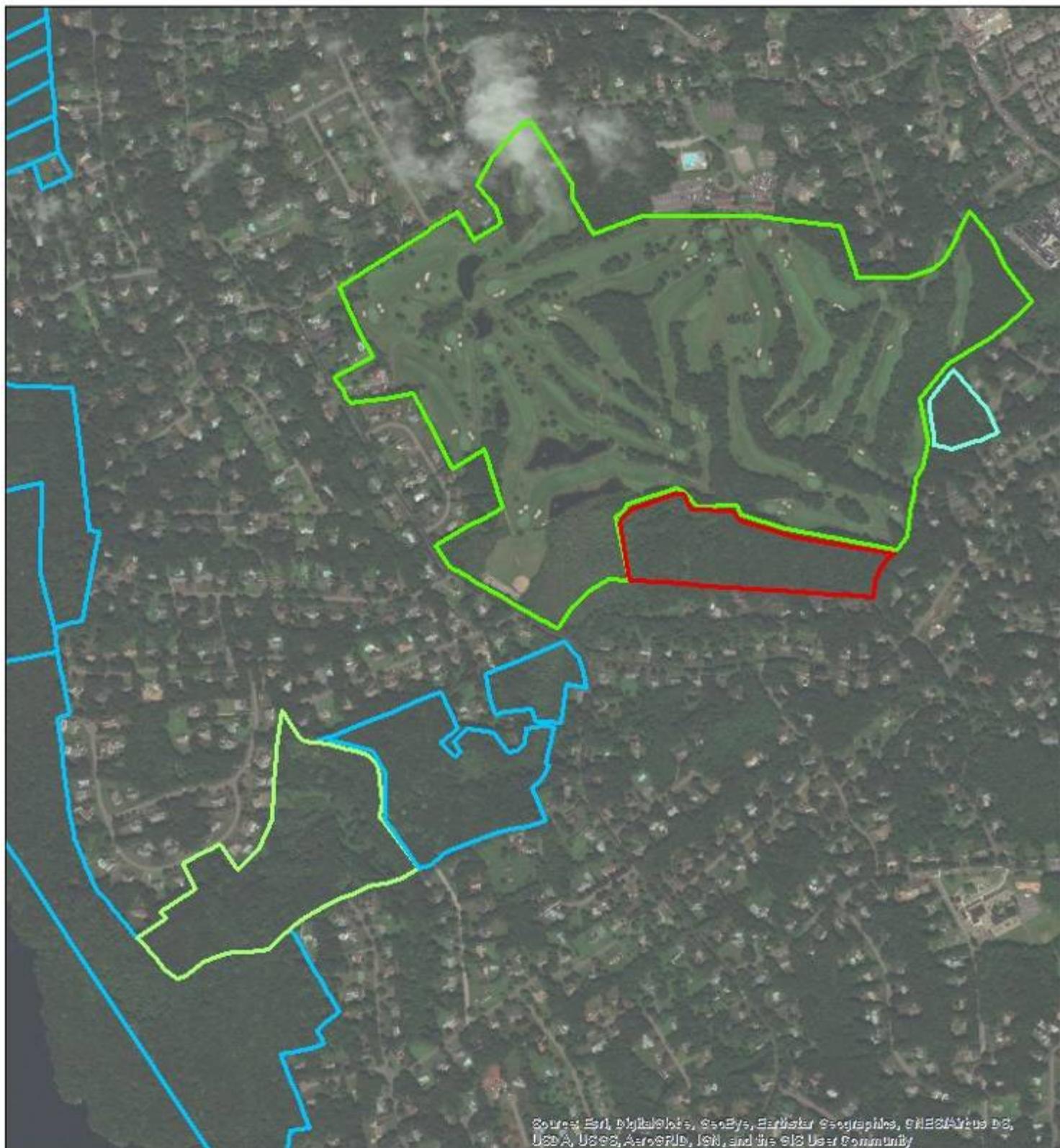
0 0.5 1 2 Miles



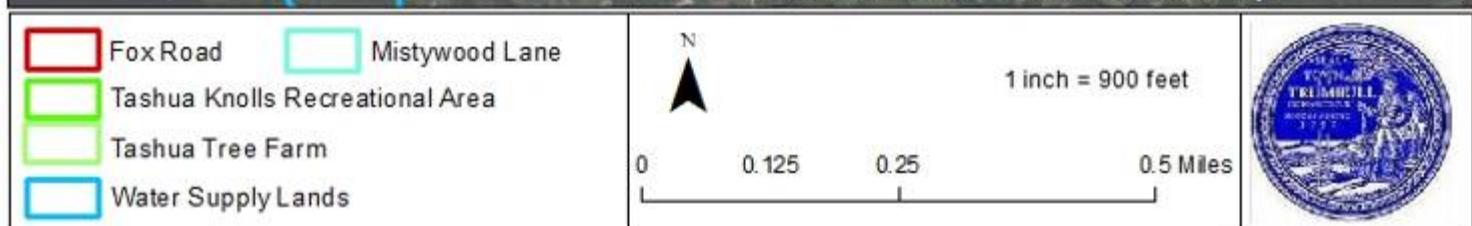
# Fox Road-Mistywood Lane Environmental Features Map



# Fox Road Surrounding Open Space Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, Aerial3D, IGN, and the GIS User Community



THREATS:

- Water/stormwater pollution
- Dumping of year waste by neighbors
- Deer browse
- Litter

RECOMMENDATIONS:

- Stormwater improvements to control stormwater erosion and pollution at culverts
- Regulation/Enforcement of dumping
- Monitor/Clean up trash

PLANT INVENTORY, November 1, 2019 Field Survey

**Trees:**

*Amelanchier arborea* (serviceberry)  
*Betula alleghaniensis* (yellow birch)  
*Fagus grandifolia* (American beech)  
*Liriodendron tulipifera* (tulip tree)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)

**Shrubs:**

*Berberis thunbergii* (Japanese barberry)  
*Clethra alnifolia* (pepperbush)  
*Hamamelis virginiana* (witch hazel)  
*Ilex verticillata* (winterberry)  
*Lindera benzoin* (spicebush)  
*Vaccinium corymbosum* (high-bush blueberry)  
*Viburnum lentago* (nannyberry viburnum)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Alliaria petiolata* (garlic mustard)  
*Arisaema triphyllum* (Jack-in-the-pulpit)  
*Impatiens capensis* (orange jewelweed)

**Ferns and allies:**

*Dennstaedtia punctilobula* (hay-scented fern)  
*Osmunda cinnamomea* (cinnamon fern)  
*Dryopteris cristata* (crested shield fern)  
*Dryopteris intermedia* (intermediate wood fern)  
*Polystichum acrostichoides* (Christmas fern)

SEPTEMBER 3, 2019 Field Survey

**CONSERVATION VALUES** include: Forests, wetlands, pond, riparian zones, floodplain forests, streams and seeps, part of a 50 acre, one-mile long greenway connecting to three Kaatz Pond properties to the south, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

**PROPERTY DESCRIPTION:**

Topaz Lane is 14 acres in size, consisting of 4 separate parcels and is located at Trumbull's northern border with Monroe (see Location Map page 402). More than 75% of Topaz Lane is wetland (see Environmental Features Map page 395). Streams flow north from the north section into the Farmill River Watershed and flow south from the southern section into the Pequonnock River Watershed, flowing into Kaatz Pond located 0.75 miles to the south and then to the Pequonnock River another 0.30 miles to the south (see Watershed Map page 406). Two ridges reaching 530 feet above sea level in elevation are located to the east and west of Topaz Lane, allowing water to flow into the wetland from both directions (see Topographic Map page 405). Elevations within Topaz Lane are flat and low at 440 feet above sea level creating a basin that is very wet (see Elevation Map page 404). The land is entirely wooded except for a small, man-made pond in the northwest section that was inaccessible due to private property and standing water (see Satellite Photograph Map page 403). 11 of the 14 acres can be classified as a red maple swamp with red maple and tulip trees, spicebush shrubs and skunk cabbage. Approximately 3 acres on the slightly higher and drier west border have mixed deciduous trees (see Ecological Communities Map page 408). Topaz Lane is completely surrounded by single family homes (see Satellite Photograph Map page 403). This and the standing water preclude hiking trails, though short trails are found at the end of Orleans Drive and the end of Bunker Hill Drive (see Hiking Trails Map page 410). These short trails, however, seem to be only used for dumping brush. Other open space in the region is not accessible from Topaz Lane (see Surrounding Open Space Map page 409). The parcels are shown in the Town's Plan of Conservation and Development Map as a

"Greenway Opportunity Area" though the land is already completely built out with single family homes on both sides of the stream and wetland. The greenway consists of the 14 acre Topaz Lane parcels, private homes that surround an unnamed stream totaling 12 acres and the 24 acres that include town owned Kaatz Pond, Teller Road and Aspen Lane parcels (see Greenway Map page 411). The main function of Topaz Lane is water collection and filtration, preventing local flooding and flooding downstream. The mature woods also provides high quality plant and wildlife habitat (see Plant Inventory page 413).



Entrance to short trail at Orleans Drive



Entrance to short trail at Bunker Hill Drive

ECOLOGICAL COMMUNITIES:

Topaz Lane has the following ecological communities (see Ecological Communities Map page 408 and Plant Inventory page 413):

Red Maple Swamp 11 acres

Mixed Deciduous Woods 3 acres

RED MAPLE SWAMP: 11 acres

Most of Topaz Lane is a red maple swamp.

Trees here are medium-sized red maple, tupelo, black oak and black birch, some as large as 24" in diameter. The understory is dense with tulip, black birch, yellow birch, tupelo, beech and sassafras saplings. Spicebush, winterberry, witch hazel, clethra (sweet pepperbush) and maple-leaf viburnum make up the shrub layer. The ground layer consists of jewelweed, skunk cabbage, clearweed, water pepper, white wood aster, tussock sedge and cinnamon, New York and crested shield ferns.

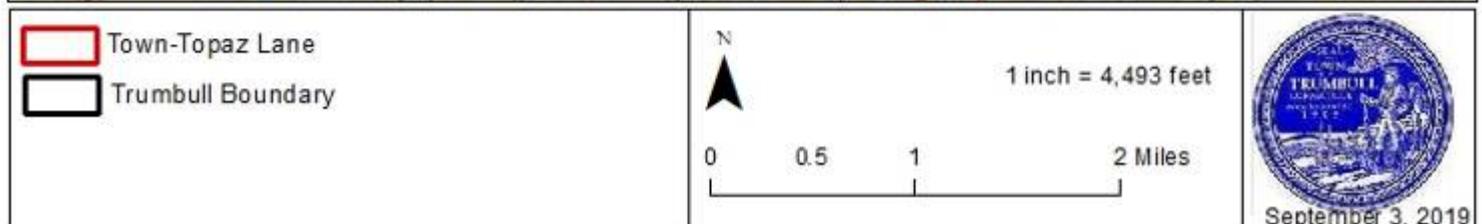
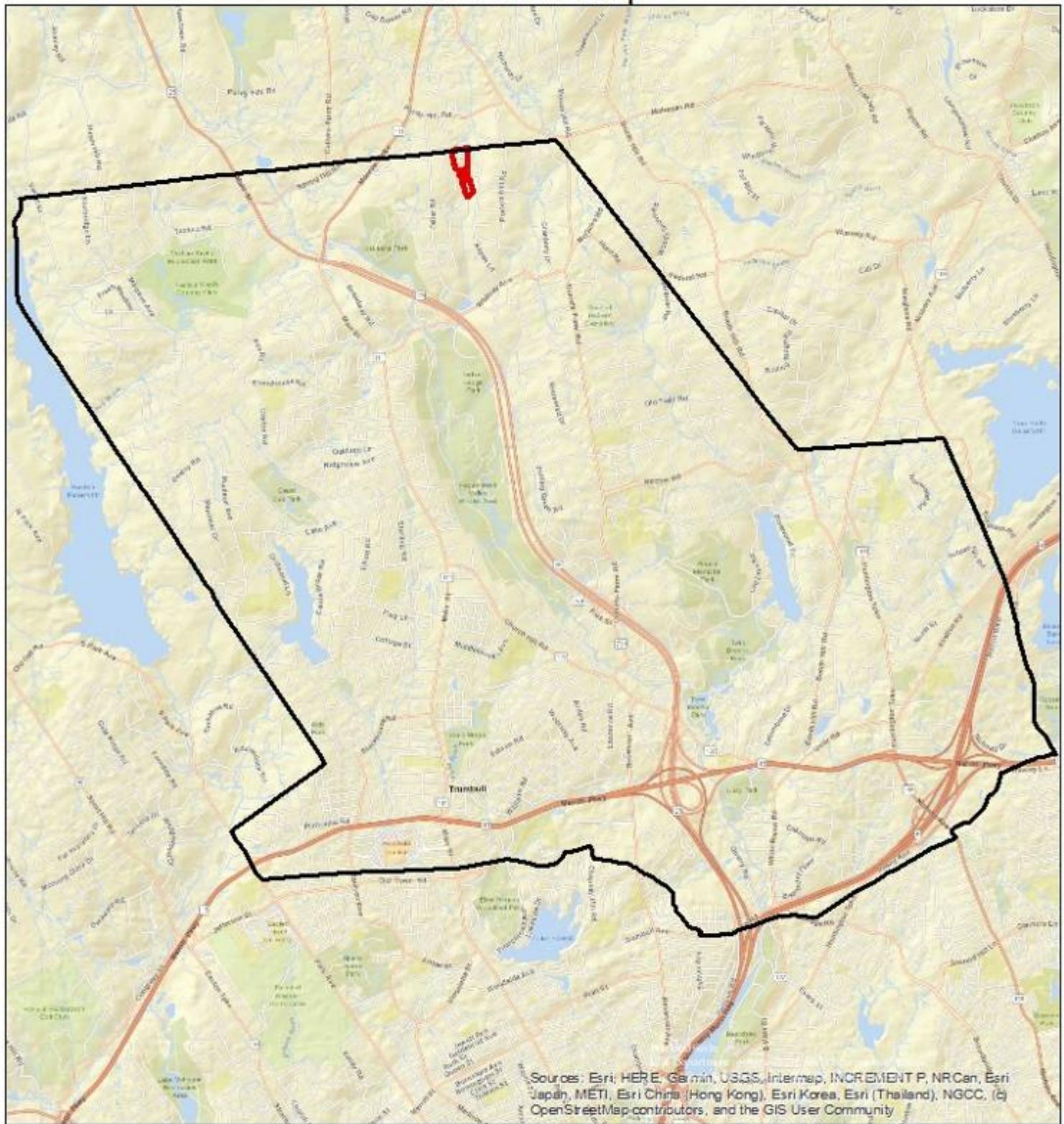


Dense vegetation and wet soils typical of the parcels

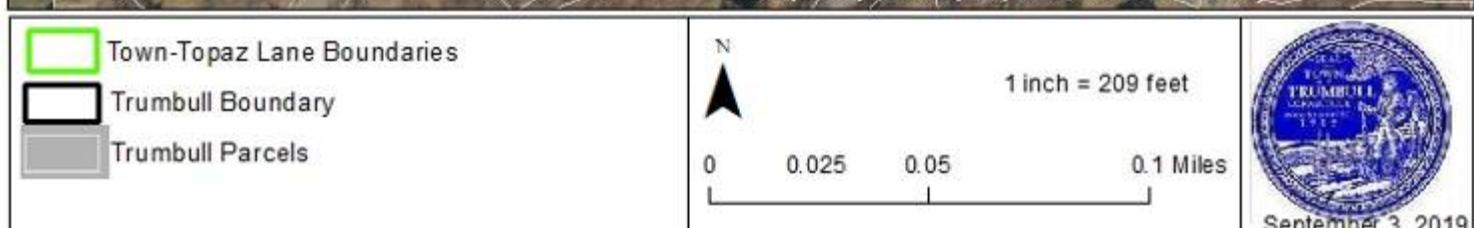
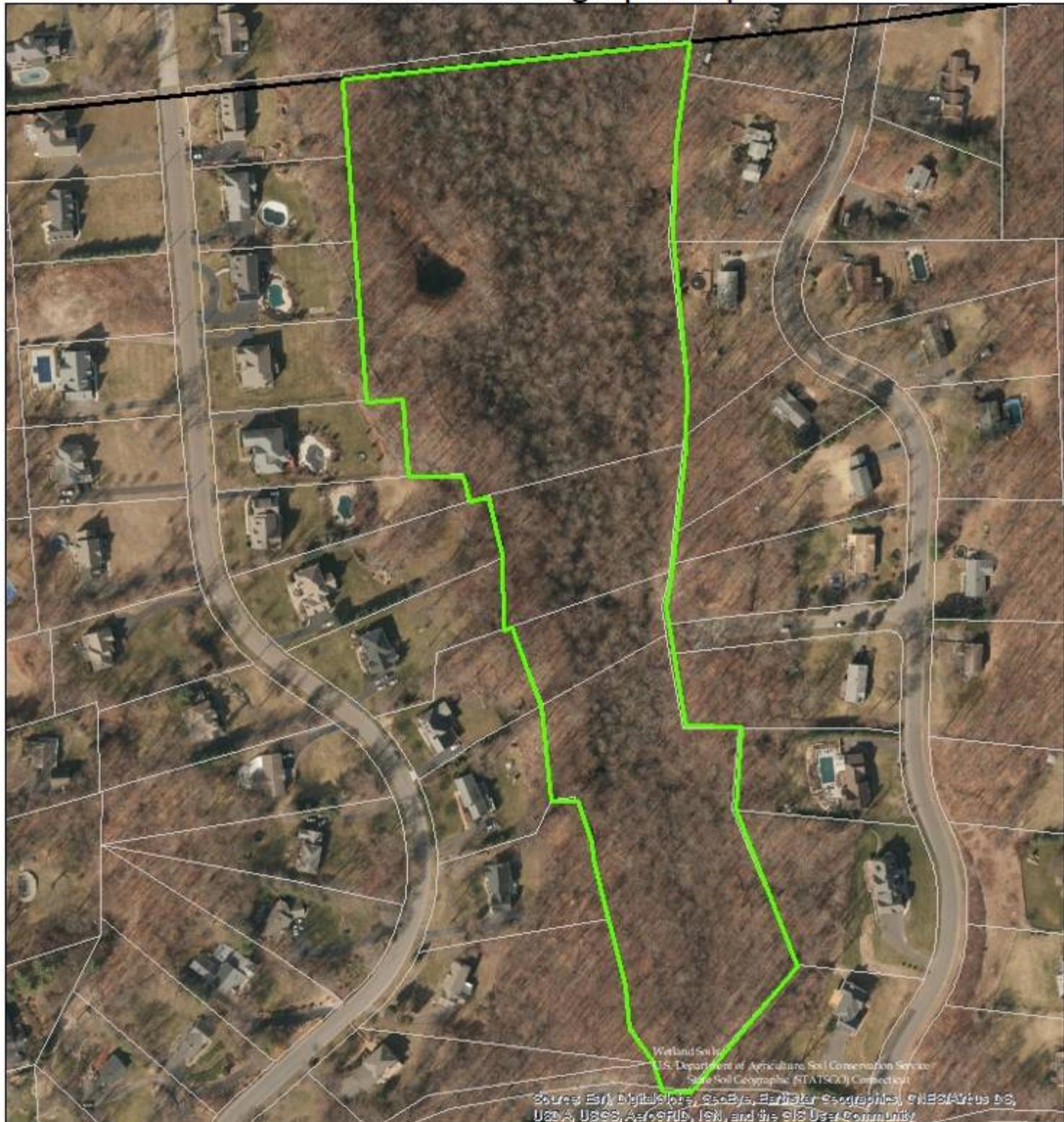
MIXED DECIDUOUS WOODS: 3 acres

The far west section of Topaz Lane is slightly higher and drier and has black and red oak, red maple, beech, shagbark hickory and sugar maple in the canopy and Canada mayflower and New York and lady fern in the ground cover.

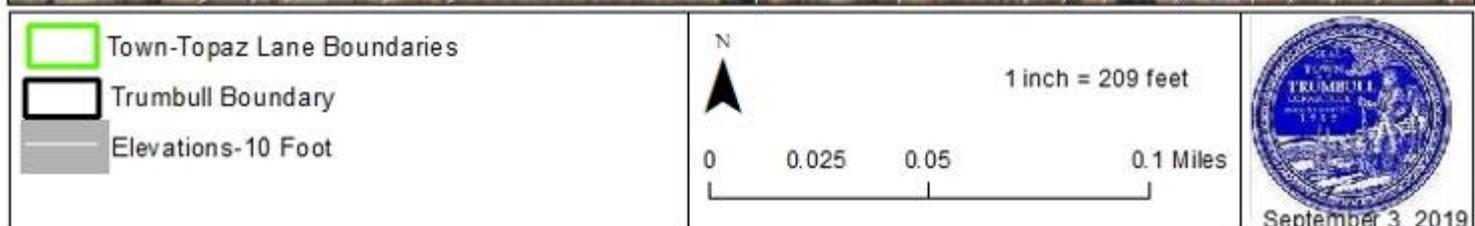
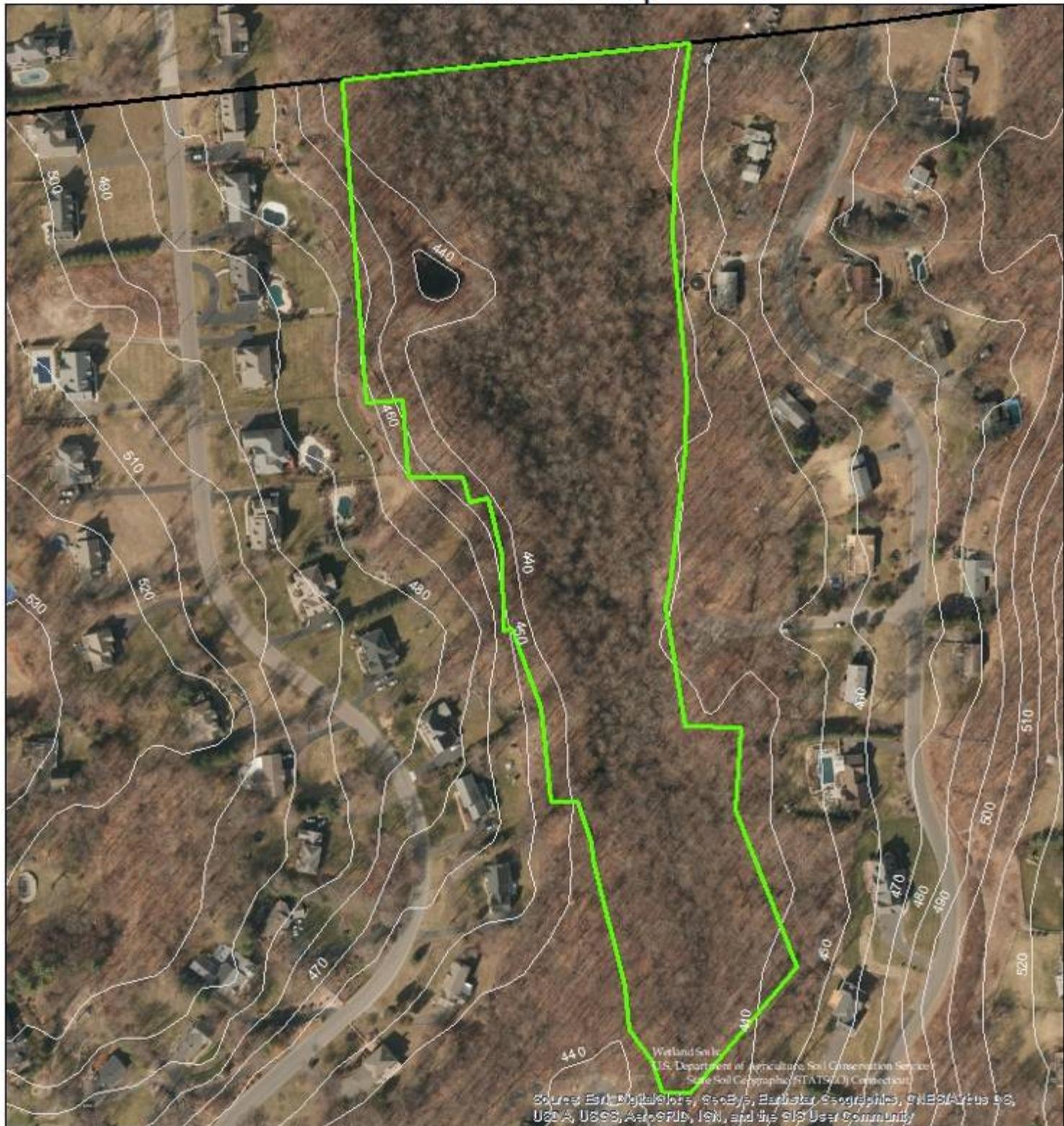
# Topaz Lane Town-Owned Parcel Location Map



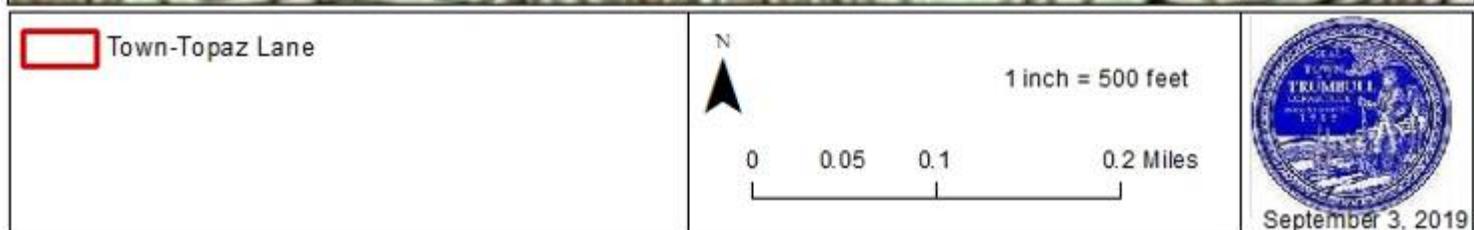
# Topaz Lane Town-Owned Parcel Satellite Photograph Map



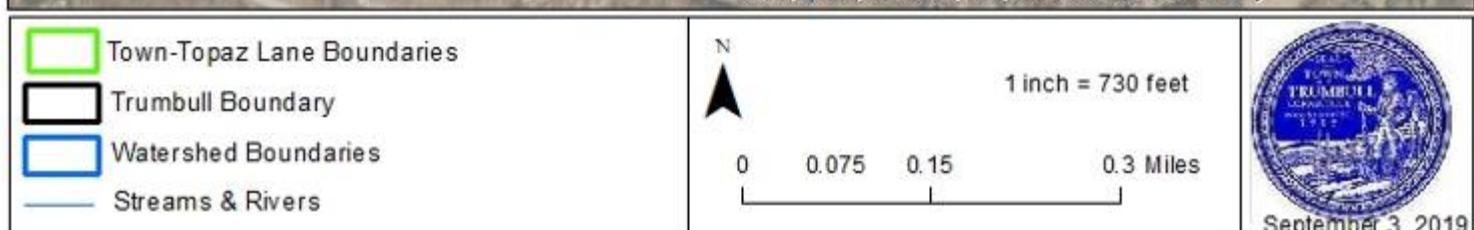
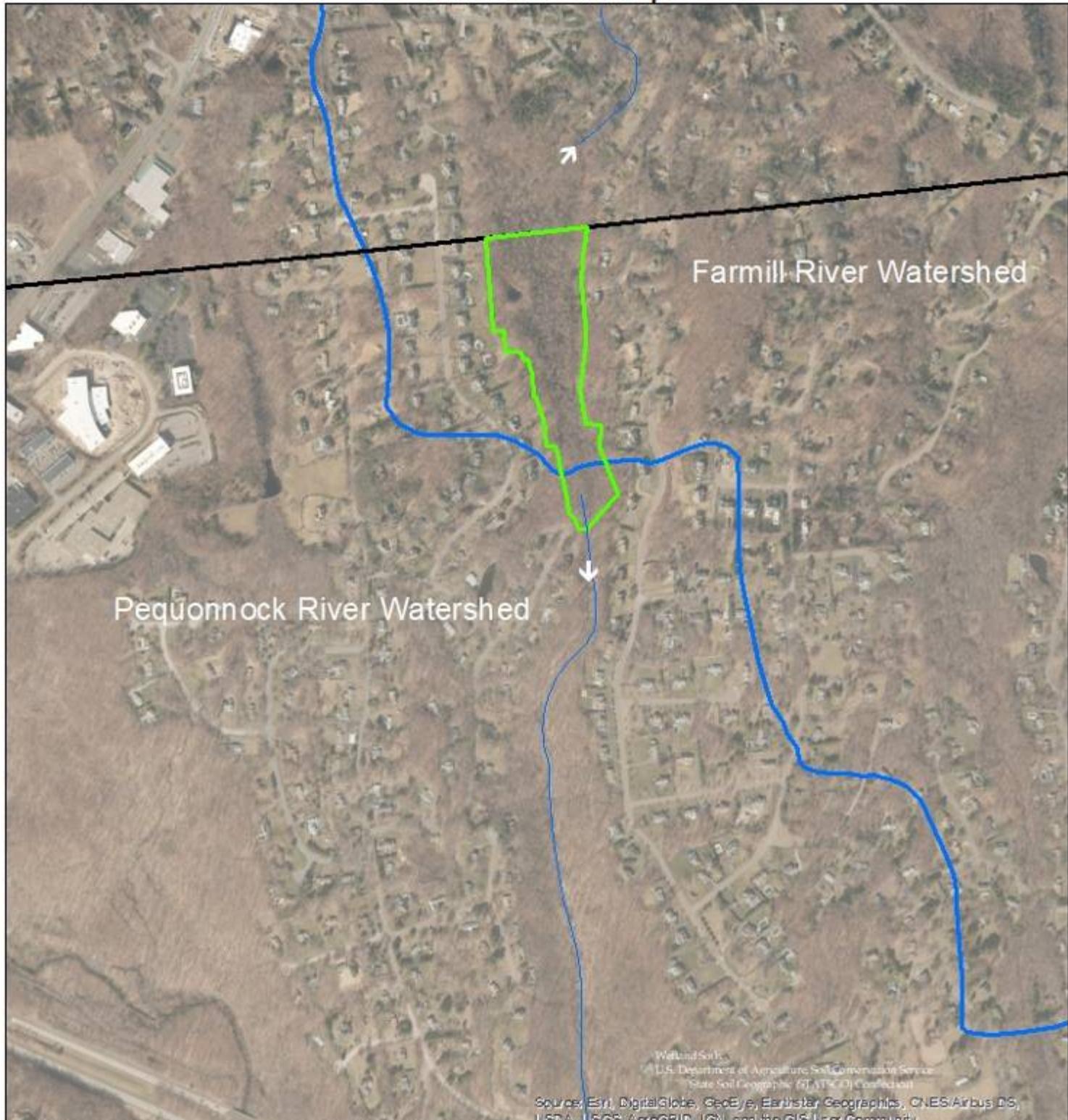
# Topaz Lane Town-Owned Parcel Elevations Map



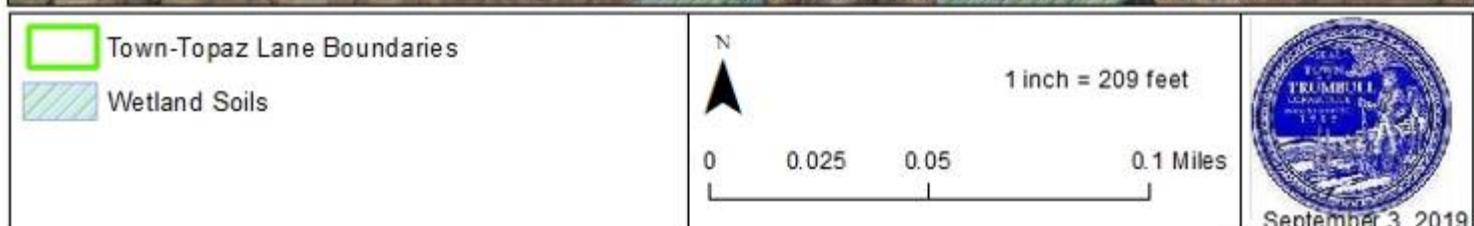
# Topaz Lane Town-Owned Parcel Topographic Map



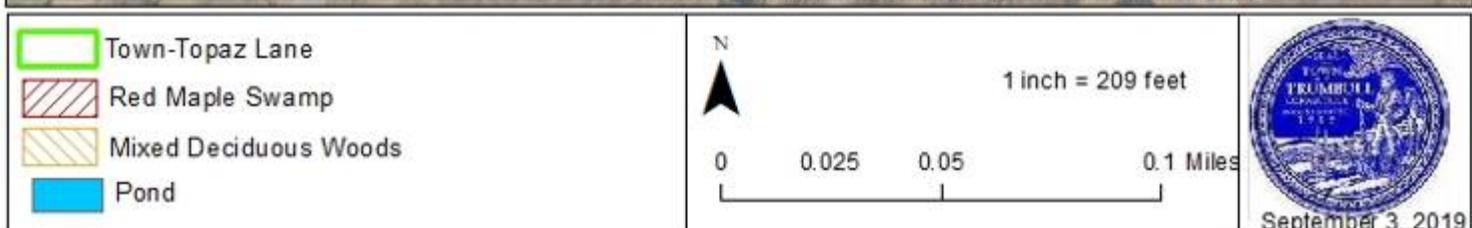
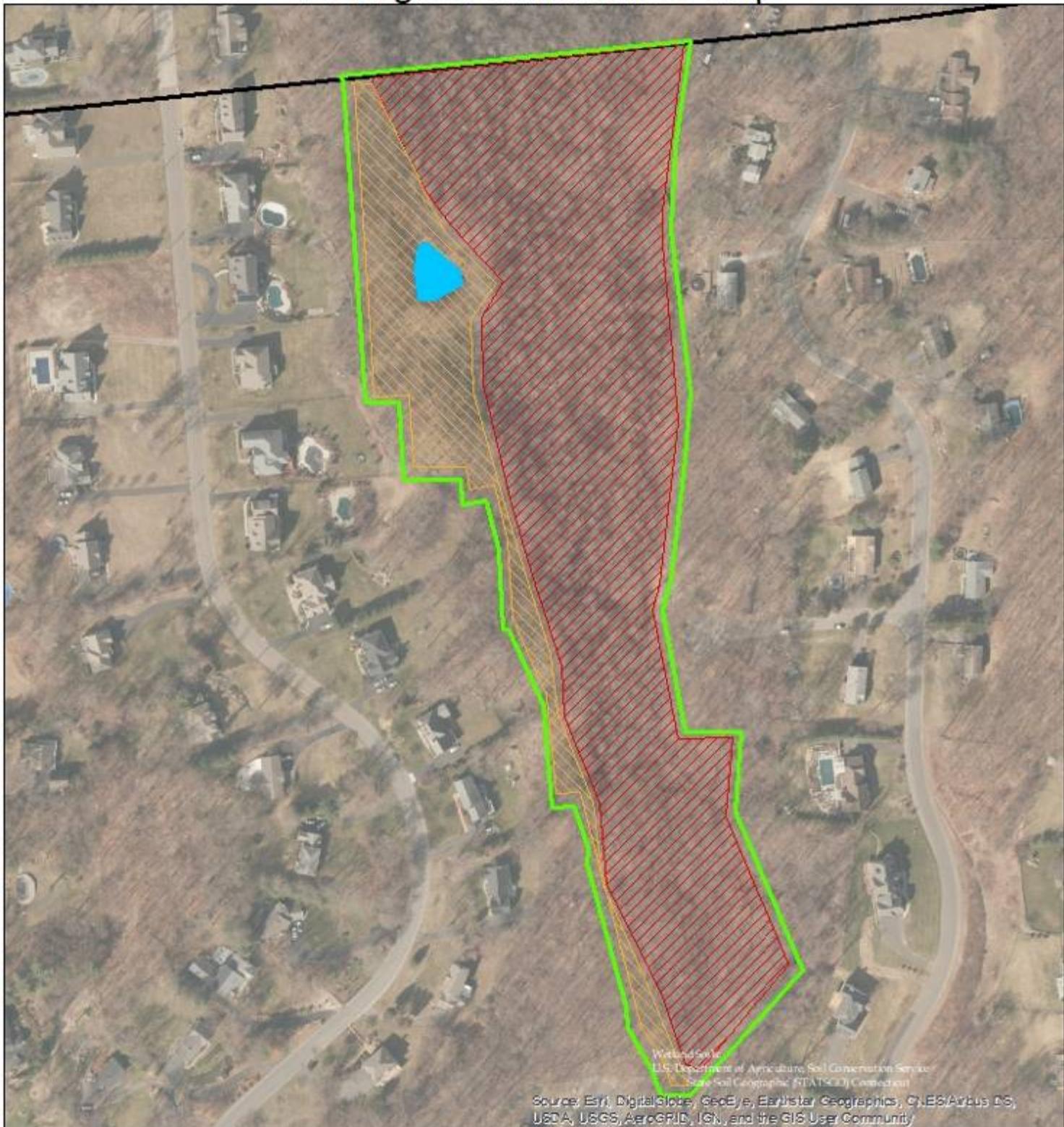
# Topaz Lane Town-Owned Parcel Watershed Map



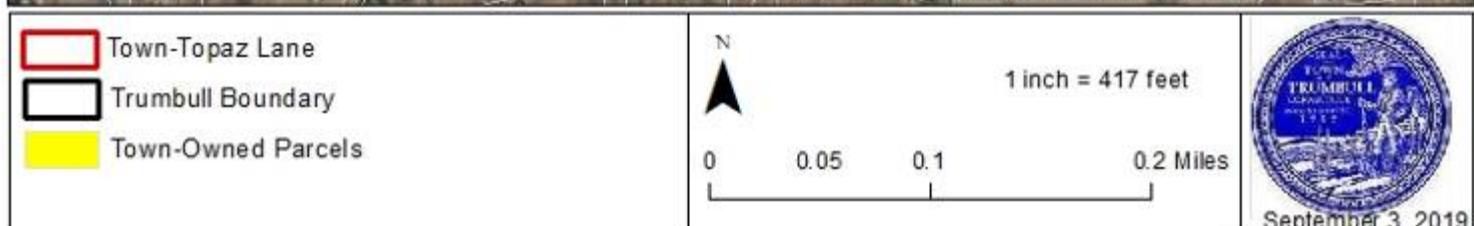
# Topaz Lane Town-Owned Parcel Wetland Soils Map



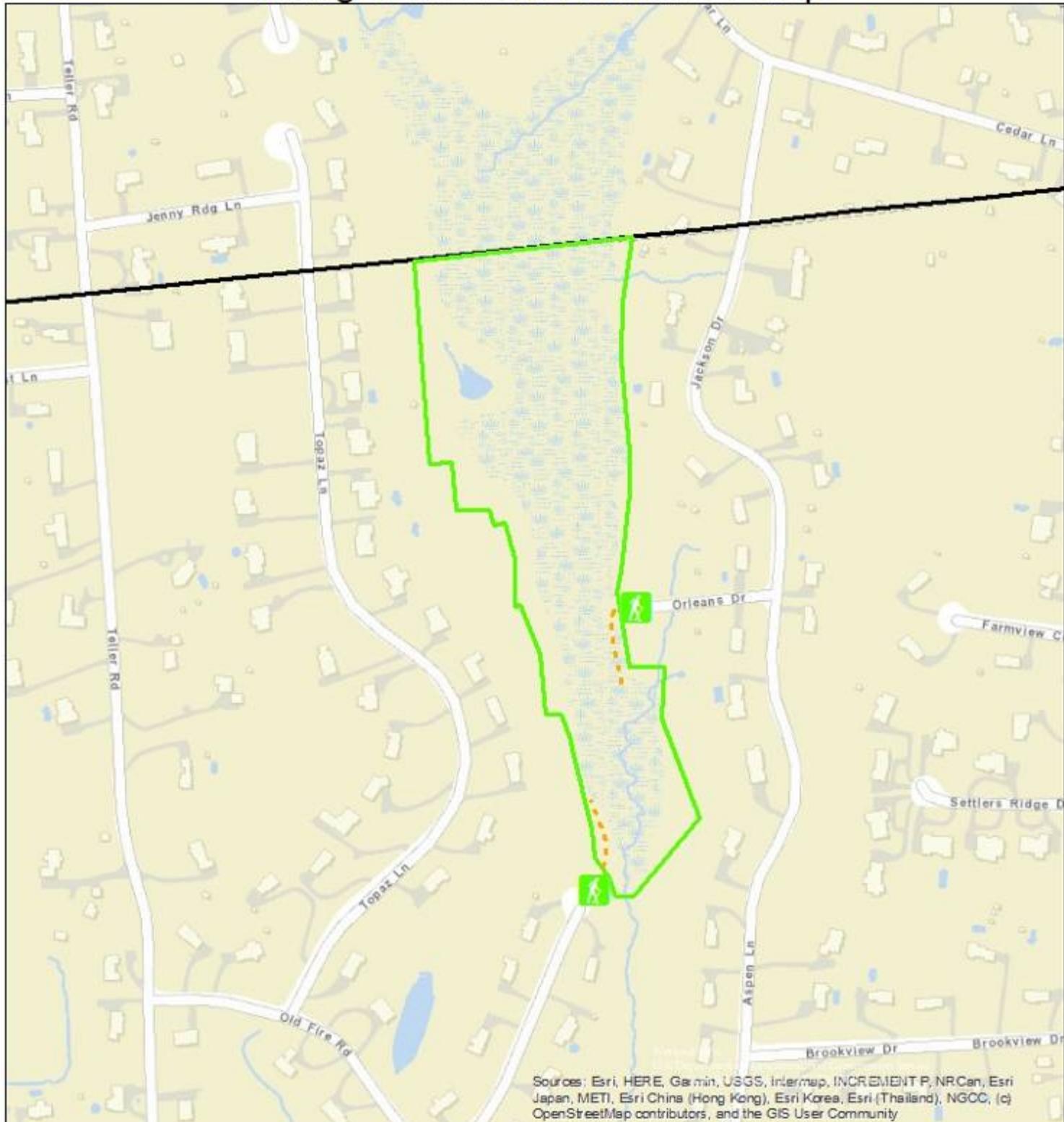
# Topaz Lane Town-Owned Parcel Ecological Communities Map



# Topaz Lane Town-Owned Parcel Surrounding Open Space Map



# Topaz Lane Town-Owned Parcel Hiking Trails & Trail Entrances Map



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

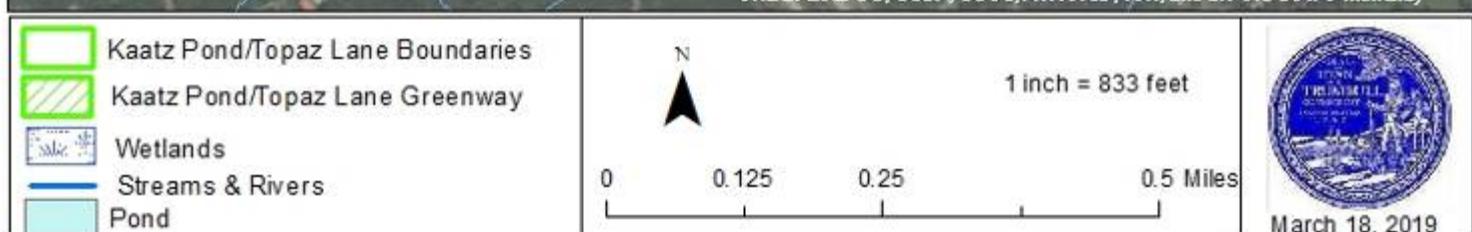
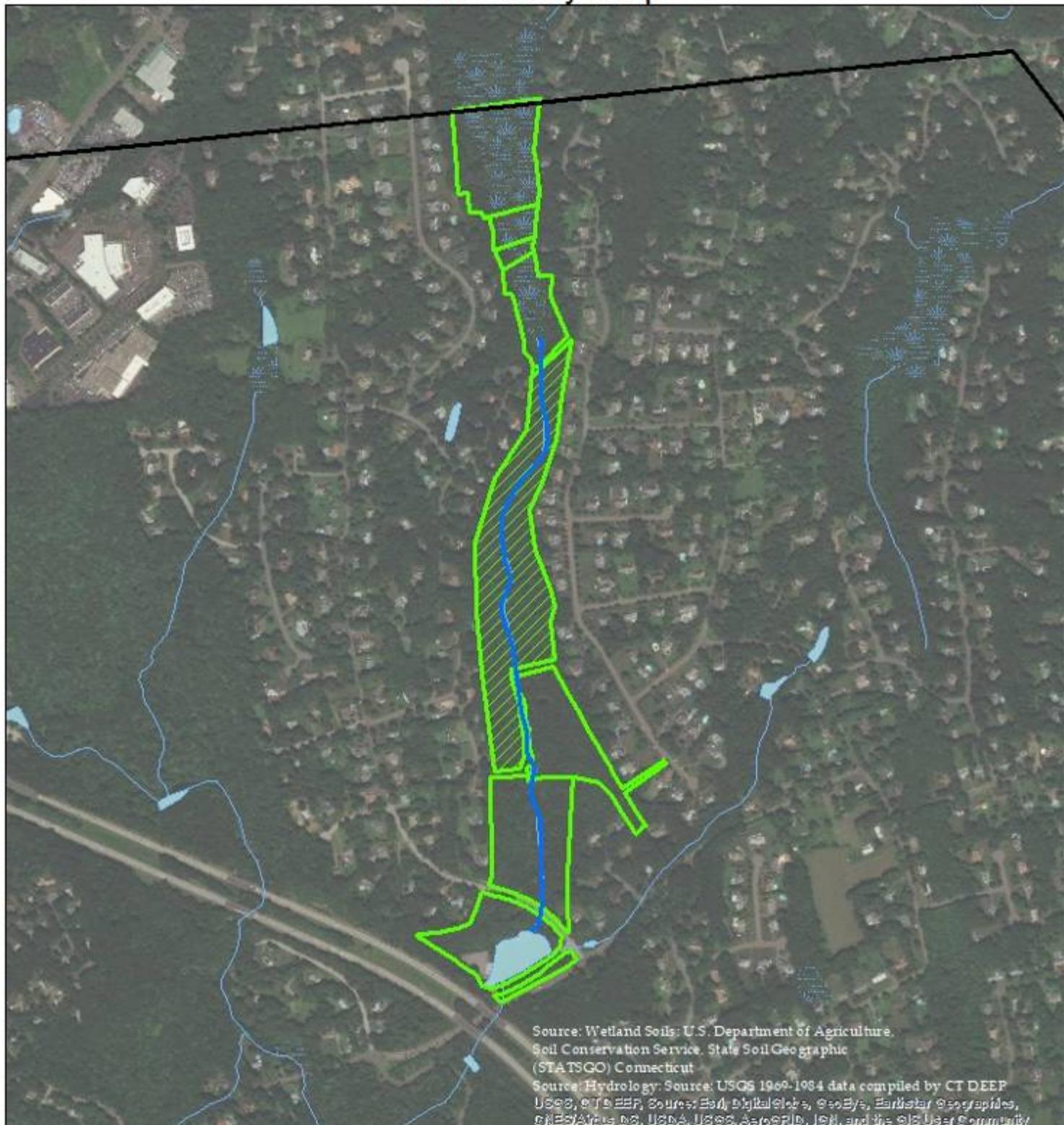


1 inch = 333 feet  
0 0.025 0.05 0.1 Miles



September 3, 2019

# Kaatz Pond/Topaz Lane Greenway Map



THREATS:

- Water/stormwater pollution
- Flooding
- Clearing/dumping by neighbors
- Deer browse
- Litter

RECOMMENDATIONS:

- Monitor/Add signs to discourage dumping

## PLANT INVENTORY July 16, 17, August 29, 2019 Field Surveys

**Trees:**

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carpinus caroliniana* (ironwood)  
*Carya ovata* (shagbark hickory)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Liriodendron tulipifera* (tulip tree)  
*Nyssa sylvatica* (tupelo)  
*Pinus strobus* (white pine)  
*Prunus serotina* (black cherry)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Ulmus americana* (American elm)

**Shrubs:**

*Alnus serrulata* (smooth [common] alder)  
*Clethra alnifolia* (pepperbush)  
*Hamamelis virginiana* (witch hazel)  
*Ilex verticillata* (winterberry)  
*Lindera benzoin* (spicebush)  
*Rubus* spp. (blackberry)  
*Viburnum acerifolium* (maple leaf viburnum)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Arisaema triphyllum* (Jack-in-the-pulpit)  
*Aster divaricatus* (white wood aster)  
*Bidens frondosa* (common beggarticks)  
*Circaeа lutetiana* (quadrisulcata) (enchanter's nightshade)  
*Impatiens capensis* (orange jewelweed)  
*Maianthemum canadense* (Canada mayflower)  
*Persicaria sagittata* (*Persicaria arifolia*) (halberd-leaved smartweed)  
*Pilea pumila* (clearweed)  
*Polygonatum biflorum* (true Solomon's seal)  
*Polygonum virginianum* (Virginia knotweed/jumpseed)  
*Symplocarpus foetidus* (skunk cabbage)

**Sedges & Rushes:**

*Carex stricta* (tussock sedge)

**Ferns and allies:**

*Athyrium filix-femina* (lady fern)  
*Dryopteris cristata* (crested shield fern)  
*Onoclea sensibilis* (sensitive fern)  
*Osmunda cinnamomea* (cinnamon fern)  
*Polystichum acrostichoides* (Christmas fern)  
*Thelypteris noveboracensis* (New York fern)

September 17, 2019 Field Survey

**CONSERVATION VALUES** include: Forests, hiking trails, wetlands, riparian zones, streams and seeps, greenways connecting three town-owned parcels and DOT parcels, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

**PROPERTY DESCRIPTION:**

Park Street/Putting Green Road consists of three parcels totaling 17 acres that are owned by the Town of Trumbull. The parcels are located directly alongside Route 25 in the center of town (see Location Map page 419). They are referred to as "Putting Green Lane (Road)" on the Town's list of town owned open space. On the Town MetroCOG website two parcels referred to as "Park Street" total 16.25 acres and the third parcel, 0.92 acres, is referred to as "Putting Green Road", also town-owned. The 0.92 acre parcel contains the Town's pump station just south of the end Scenic Hill Road and has a trail sign indicating the entrance to the 0.67 mile hiking trail that runs north-south through all three parcels. The hiking trail can be accessed via Scenic Hill Road to the north and by Old Hollow Road to the south (see Hiking Trails Map page 426). Parking for a few cars is available at the end of Scenic Hill Road and along Old Hollow Road. Single family homes border the parcels to the east and Route 25 borders the parcels to the west.



Trail entrance at end of Scenic Hill Road

The town also owns the 7 acre Wordins Lane parcel located just east of these three parcels. The Wordins Lane parcel connects, via a linear town-owned corridor, the Park Street/Putting Green Road parcels to the Trumbull Middle and High Schools and the Agriscience School located 0.5 miles to the east (see Surrounding Open Space Map page 424 and Hiking Trails Map page 426). A hiking trail could be made here to allow students to hike from the campus to these woods.



View north of hiking trail



South trail entrance along Old Hollow Road

The Park Street parcels are mostly wooded with oak-hickory and red maple swamp communities (see Satellite Photograph Map page 420 and Ecological Communities Map page 425). A 5-acre wetland with a partially open canopy lies in the eastern section of the parcels (see Wetland Soils Map page 423). A small stream runs north to south through this wetland and seemingly connects with a large stream which flows east to west from the parcels' southern section into the Pequonnock River located one third of a mile to the west. A historic stone wall runs alongside the hiking trail in the northern section.



Small stream along eastern boundary



Foot bridge over stream flowing into Pequonnock River

The parcels are relatively flat with elevations dropping from 380 feet above sea level in the northern section to 320 above sea level in the southern section and along Route 25 (see Elevation Map page 421 and Topographic Map page 422). A slight ridge runs between the hiking trail and Route 25, providing screening from traffic for hikers.

## ECOLOGICAL COMMUNITIES:

The Park Street/Putting Green Road parcels have the following ecological communities (see Ecological Communities Map page 425 and Plant Inventory page 428):

Oak-Hickory Forest	12 acres
Red Maple Swamp	5 acres

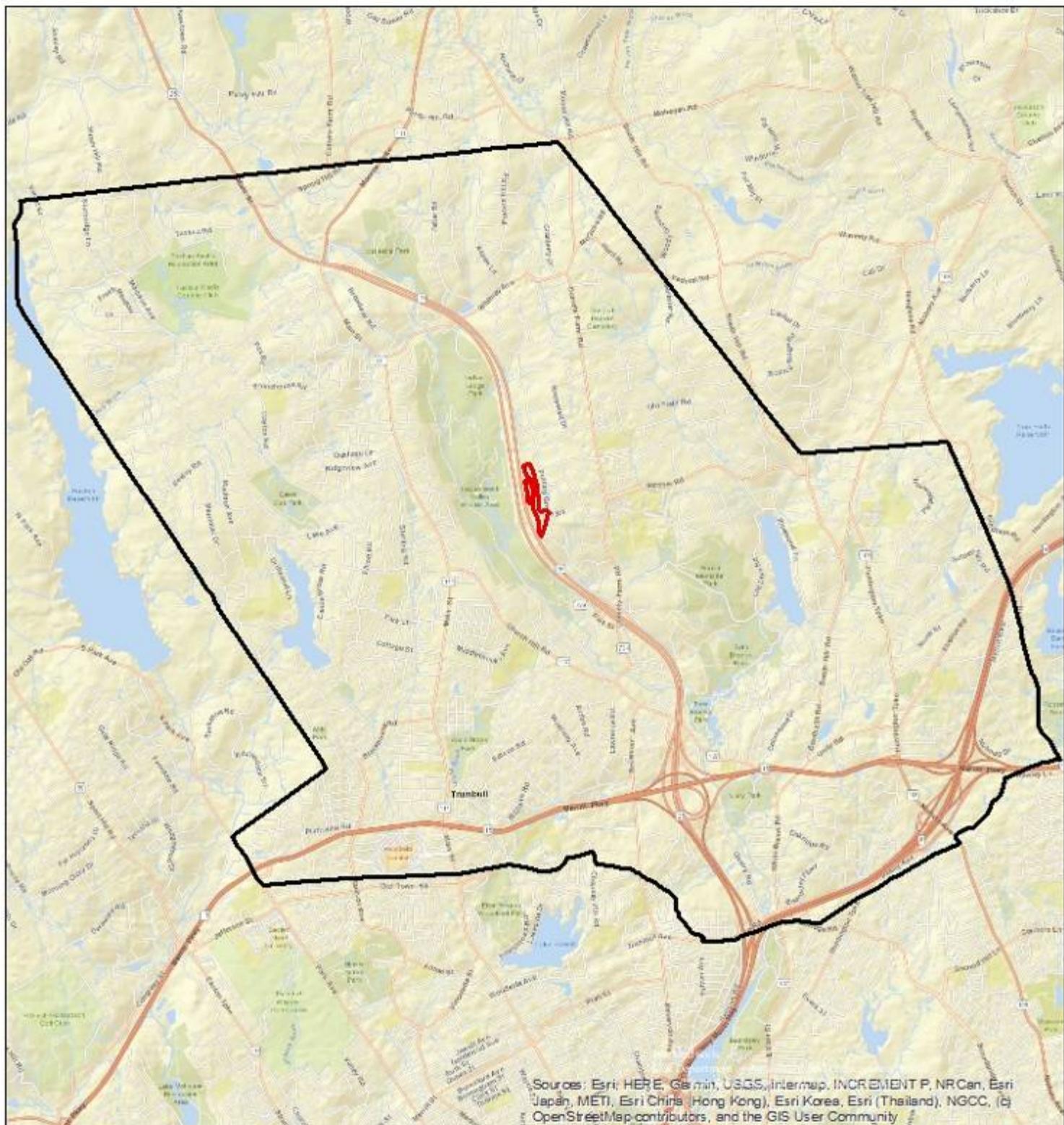
## OAK-HICKORY FOREST 12 acres

This stand is located on the higher, drier northern, central and western sections of the Park Street parcels. Medium to large sized black, red and white oaks along with beech, tupelo and a few hemlocks grow above an understory of sassafras saplings and a shrub layer of witch hazel, mountain laurel, alternate leaf dogwood, maple leaf viburnum and low and high bush blueberry shrubs. The ground layer include hay scented and New York fern colonies, Pennsylvania sedge, Solomon's seal, princess pine and greenbriar vines. This mature forest is remarkably free of invasive plants, given its location close to a major thoroughfare.

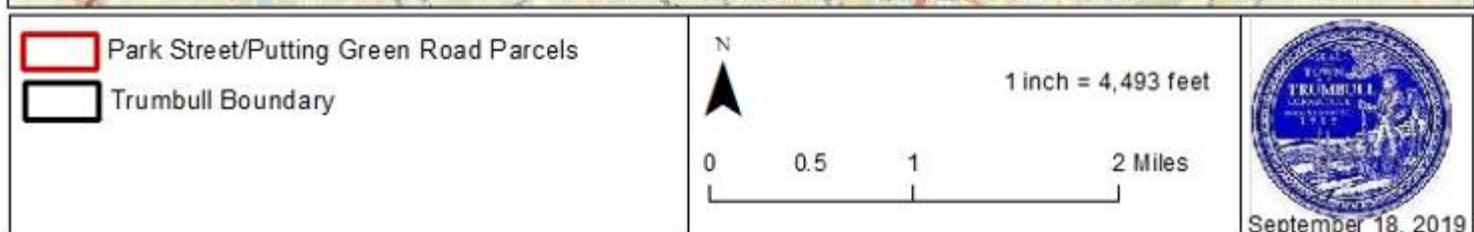
## RED MAPLE SWAMP: 5 acres

This stand is located in the far eastern section of the parcels. Trees here include medium-sized red maple and cottonwood. Spicebush, sweet pepperbush and invasive multi-flora rose grow in the shrub layer making this section difficult to hike. The ground layer is wet and consists of jewelweed, false nettles, Jack in the pulpit, beggarticks, bur sedge and sensitive and cinnamon fern.

# Park Street/Putting Green Road Location Map



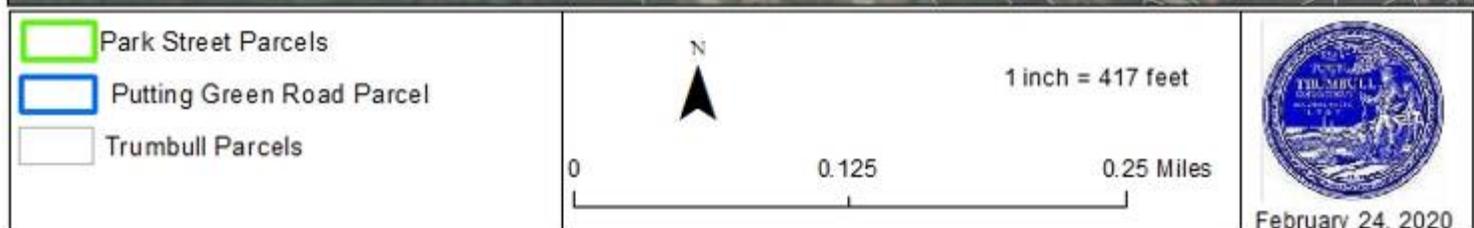
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



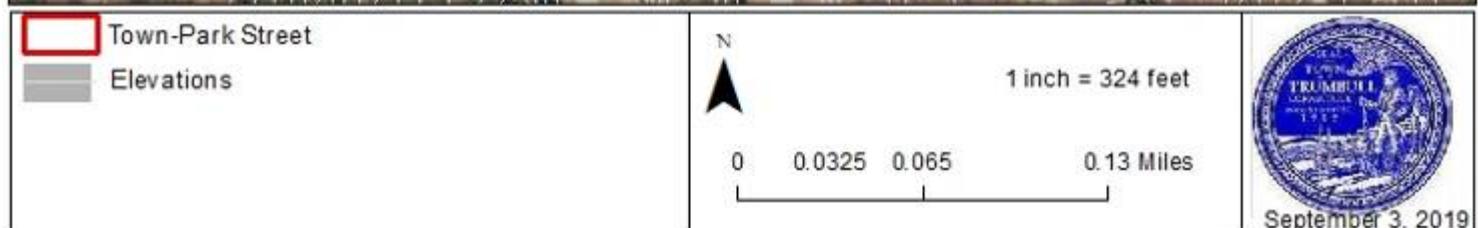
# Park Street/Putting Green Road Satellite Photograph Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, SKYVIEW, Inc., USGS, USGS AerialPhoto, IGN, and the Esri User Community



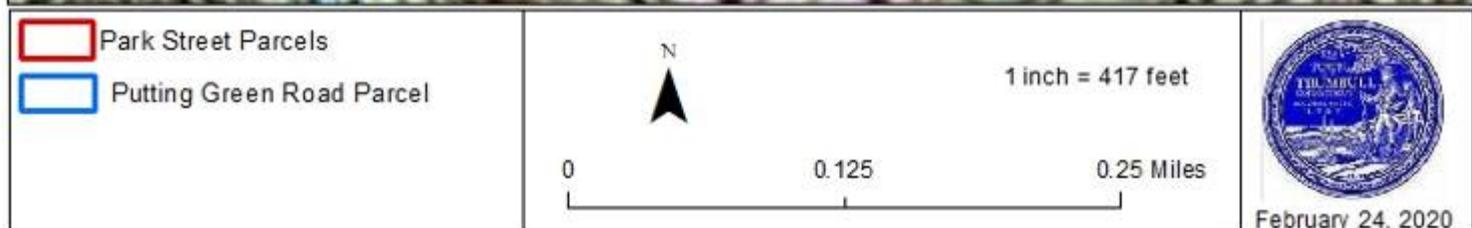
# Park Street/Putting Green Road Elevations Map



# Park Street/Putting Green Road Topographic Map



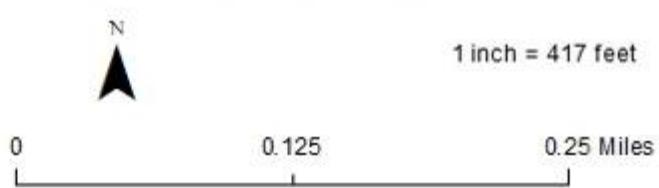
USGS, CT DNR, Copyright © 2013 National Geographic Society, Labeled



# Park Street/Putting Green Road Streams & Wetland Soils Map



<span style="border: 1px solid green; display: inline-block; width: 15px; height: 10px;"></span> Park Street Parcels
<span style="border: 1px solid blue; display: inline-block; width: 15px; height: 10px;"></span> Putting Green Road Parcel
<span style="background-color: #a1c4fd; display: inline-block; width: 15px; height: 10px;"></span> Wetland Soils
<span style="border: 1px solid lightblue; display: inline-block; width: 15px; height: 10px;"></span> Streams



February 24, 2020

# Park Street/Putting Green Road Surrounding Open Space Map



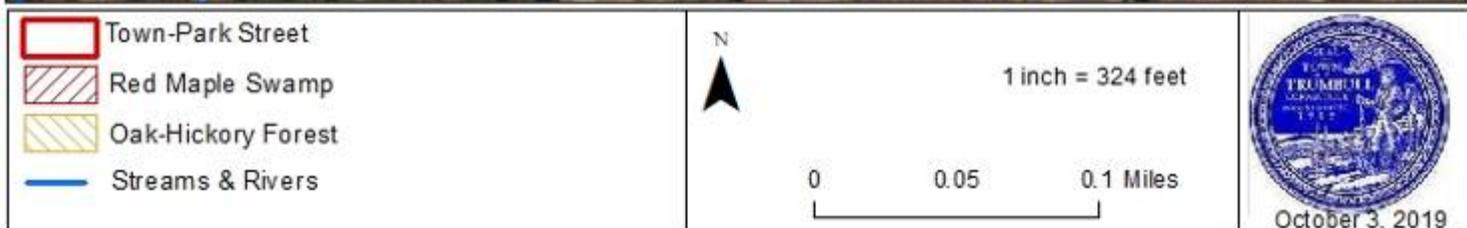
1 inch = 454 feet

0 0.0375 0.075 0.15 Miles

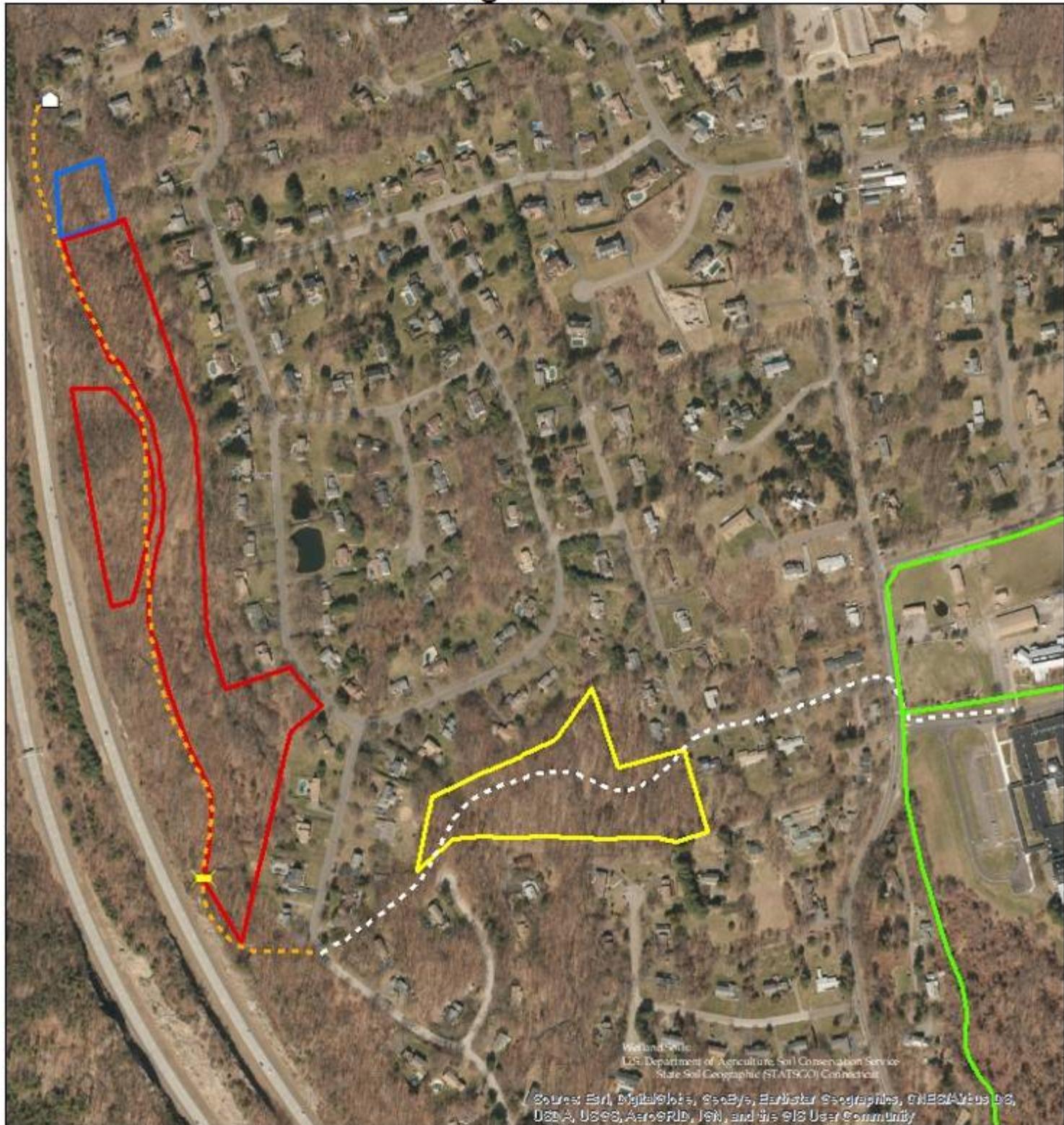


September 3, 2019

# Park Street Town-Owned Parcel Ecological Communities Map



## Park Street Town-Owned Parcel Hiking Trails Map



Map showing the locations of Town-Park Street (17 acres), Town-Pudding Street (0.92 acres), Town-Wordins Lane (7 acres), and Trumbull Middle & High School & Agriscience School. The map includes a legend for Hiking Trail, Possible Hiking Trails to Schools, Foot Bridge, Pump Station/Trail Entrance, a north arrow, a scale bar (1 inch = 454 feet), and a distance scale (0, 0.05, 0.1 Miles). The seal of the Town of Trumbull, Connecticut, is also present.

RECOMMENDATIONS:

- Trails-connect and formalize hiking trails from Putting Green parcel through Park Street parcel and into Wordins Land parcel and then to Middle, High and Agriscience Schools
- Add trail blazes and signage with trail information and trail maps indicating that these trails are open to the public to encourage greater use

PLANT INVENTORY  
September 17, 2019 Field Survey

**Trees:**

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula lenta* (black birch)  
*Carya cordiformis* (bitternut hickory)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Ilex opaca* (American holly)  
*Nyssa sylvatica* (tupelo)  
*Populus deltoids* (cottonwood)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Sassafras albidum* (sassafras)  
*Tsuga canadensis* (eastern hemlock)

**Shrubs:**

*Clethra alnifolia* (pepperbush)  
*Cornus alternifolia* (alternate leaf dogwood)  
*Hamamelis virginiana* (witch hazel)  
*Kalmia latifolia* (mountain laurel)  
*Lindera benzoin* (spicebush)  
*Rosa multiflora* (multiflora rose)  
*Rubus flagellaris* (dewberry)  
*Rubus phoenicolasius* (wineberry)  
*Rubus* spp. (blackberry)  
*Vaccinium angustifolium* (low-bush blueberry)  
*Vaccinium corymbosum* (high-bush blueberry)  
*Viburnum acerifolium* (maple leaf viburnum)

**Vines:**

*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Artemisia vulgaris* (common mugwort)  
*Aster divaricatus* (white wood aster)  
*Bidens frondosa* (common beggarticks)  
*Boehmeria* cylindrical, (false nettle)  
*Erechtites hieracifolia* (pilewort)  
*Erigeron annuus* (daisy fleabane)  
*Eupatorium rugosum* (*Ageratina altissima*) (white snakeroot)  
*Impatiens capensis* (orange jewelweed)

*Pilea pumila* (clearweed)  
*Polygonatum biflorum* (true Solomon's seal)  
*Polygonum persicaria* (lady's thumb)  
*Polygonum pensylvanicum* (smartweed)  
*Polygonum virginianum* (Virginia knotweed/jumpseed)

**Sedges & Rushes:**

*Carex grayii* (bur sedge)  
*Carex pensylvanica* (Pennsylvania sedge)

**Ferns and allies:**

*Dennstaedtia punctilobula* (hay-scented fern)  
*Polystichum acrostichoides* (Christmas fern)  
*Thelypteris noveboracensis* (New York fern)

March 5, 2020 Field Survey

**CONSERVATION VALUES** include: Forests absorbing stormwater, wetlands, ponds, riparian zones, floodplain forests, nesting sites and stop over sites for migrating birds, habitat for pollinators.

### PROPERTY DESCRIPTION:

This 8.55 acre assemblage is comprised of four linear parcels located in the center of Trumbull along the west side of Main Street (see Location Map page 432). The northernmost parcel located at 6175 Main Street is 2.1 acres of wetland. 200 feet south of that and across Lake Avenue is the Lake Avenue Park. It is 4.4 acres in size and is all wetland. Adjacent and south are the two Bittersweet Lane parcels: the northern parcel is 1.05 acres in size; the southern parcel is 1 acre in size. Both are all wetland (see Streams & Wetland Soils Map page 436). Bittersweet Lane runs between these parcels. The northern parcel is accessible from Main Street; the Lake Avenue parcel is accessible from Lake Avenue only; the two Bittersweet Lane parcels are accessible only from Bittersweet Lane.

The properties are completely surrounded by single-family housing and the Holy Cross Lutheran Church to the south (see Surrounding Open Space Map page 438). The properties are entirely wooded wetlands (see Satellite Photograph Map page 433 and Ecological Communities Map page 437).

The northern parcel is entirely wetland with small to medium sized red maple, ash, elm, black walnut and black cherry trees. A small, open wet meadow with tussock sedge and sensitive fern is found at the extreme northern point of the parcel. Invasive phragmites grow just to the south while invasive mugwort and Japanese knotweed grow closer to Main Street. Over a dozen discarded automobile tires float in the middle of the wetland. Construction debris fills the southern boundary with the gas station.

The other parcels have medium sized red maple, tulip, tupelo and ash trees along with a large black willow tree and a few invasive ailanthus trees. Beech saplings grow in the understory. Shrubs include sumac and invasive multi-flora rose. A small, 0.25 acre pond lies

at the southern end of the Lake Avenue parcel, but it is inaccessible due to wetlands with standing water, which prevents hiking trails anywhere on the four parcels.

These parcels serve primarily to absorb and control storm water from the numerous homes and businesses in the surrounding area. All four parcels lie in the FEMA flood plain (see Flood Plain Map page 14 [Part I]). Standing water, invasive plants and trash prevent other uses.



View north from Bittersweet Lane of Bittersweet parcel

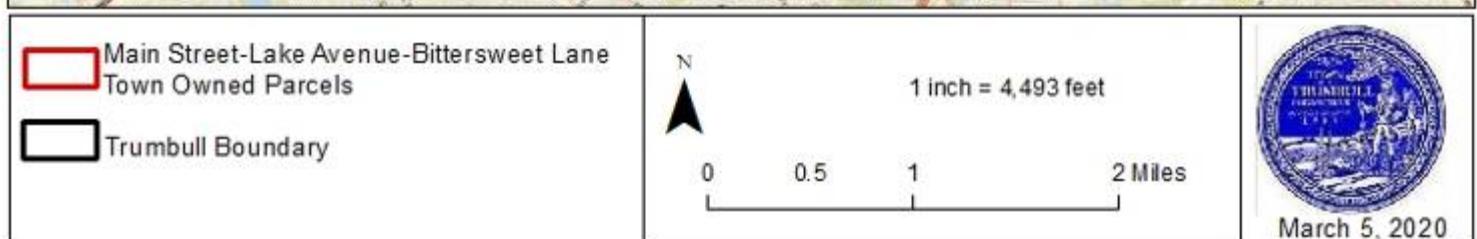
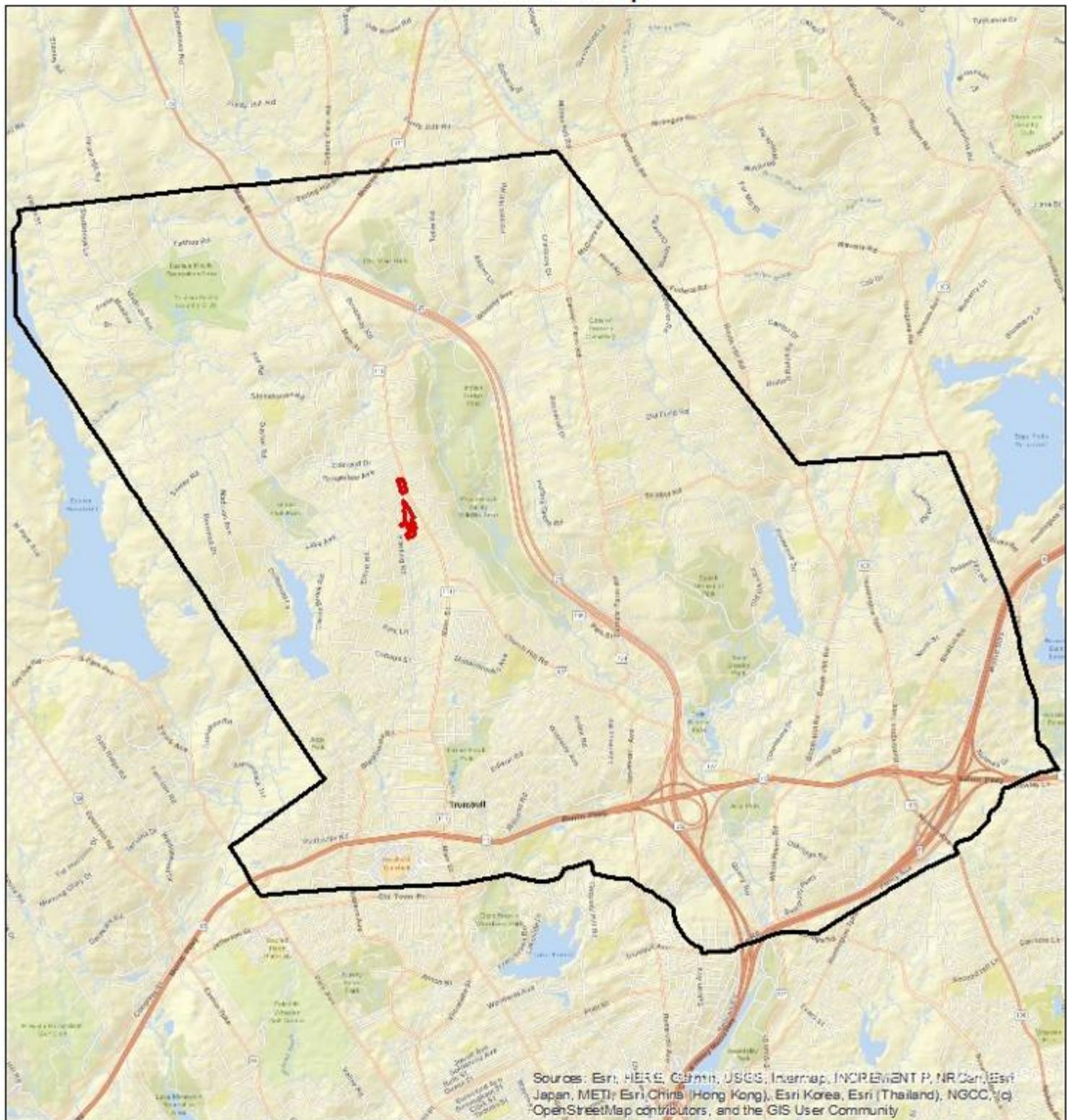


View south from Lake Avenue into Lake Avenue parcel

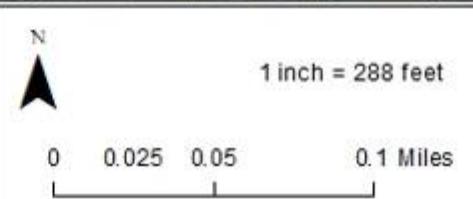
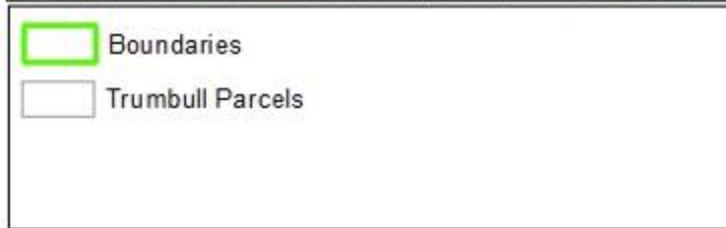


View west from Main St into Main St. parcel

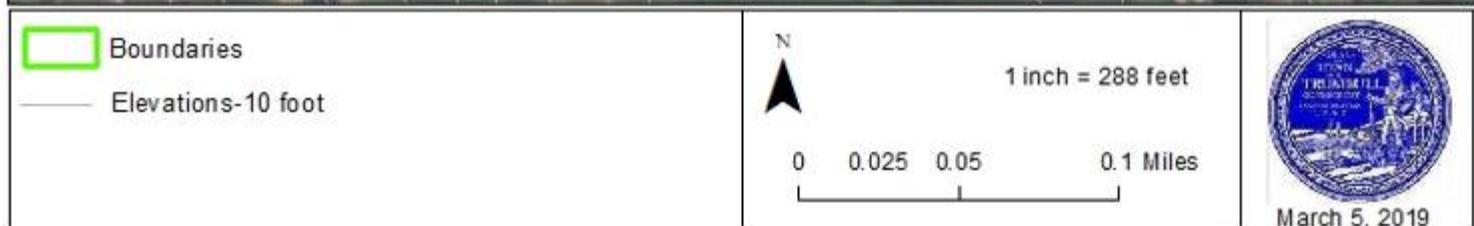
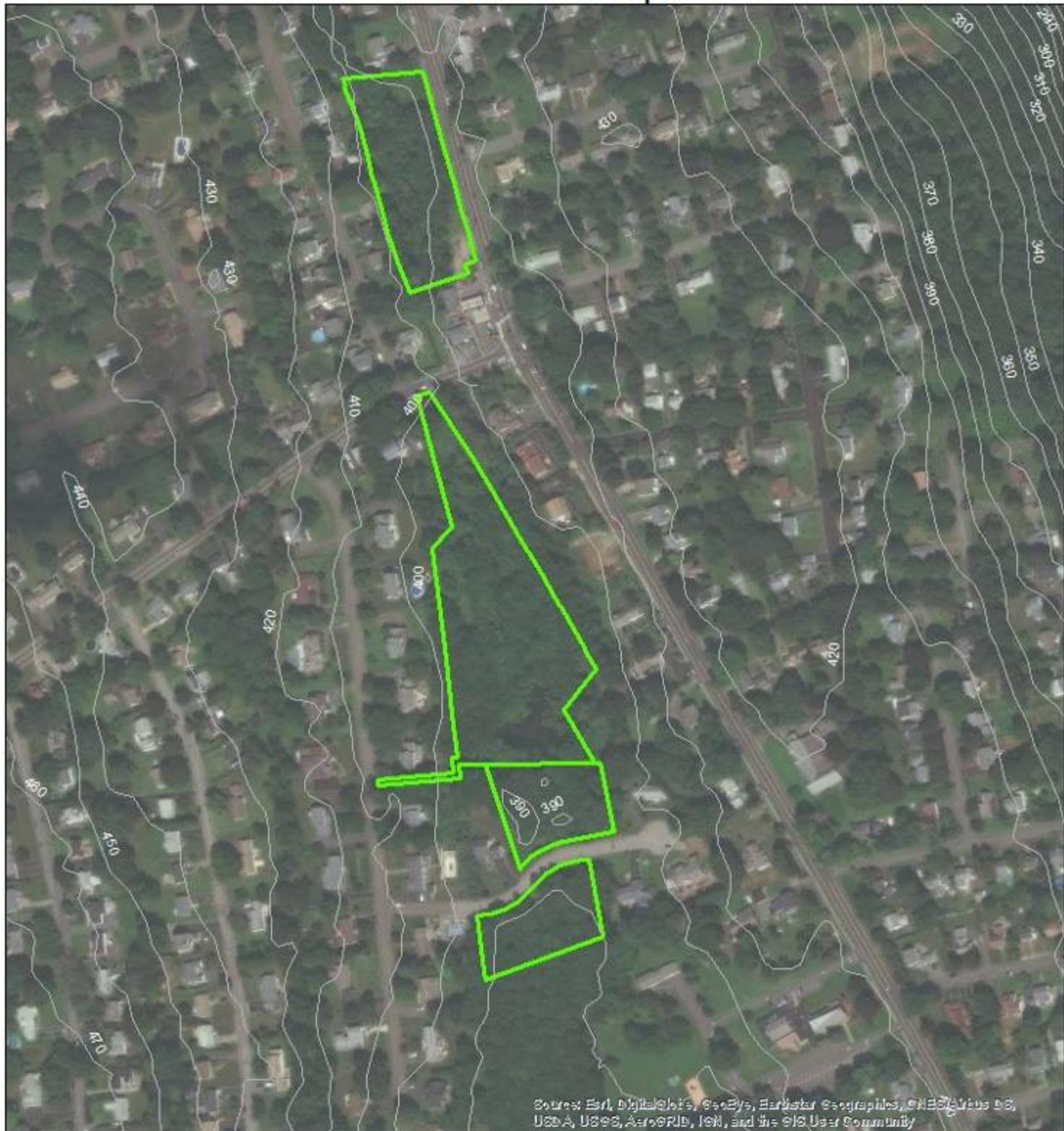
# Main Street-Lake Avenue-Bittersweet Lane Location Map



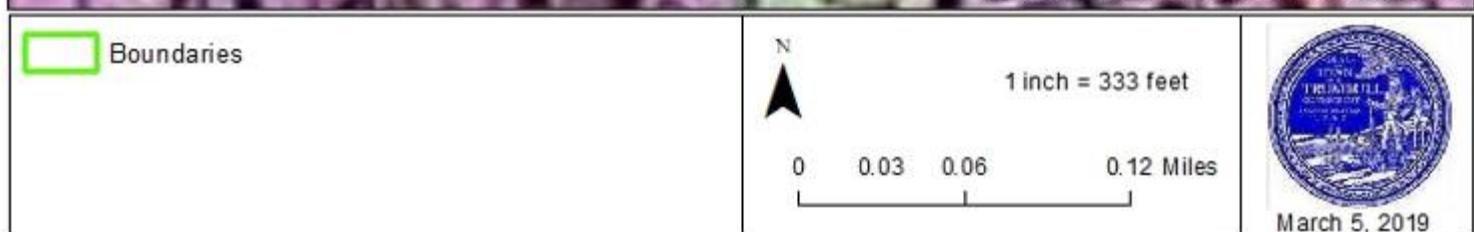
# Main Street-Lake Avenue-Bittersweet Lane Satellite Photograph Map



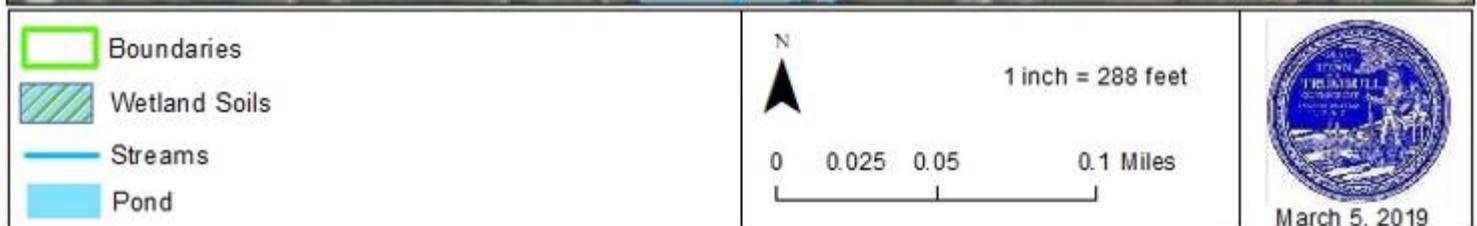
# Main Street-Lake Avenue-Bittersweet Lane Elevations Map



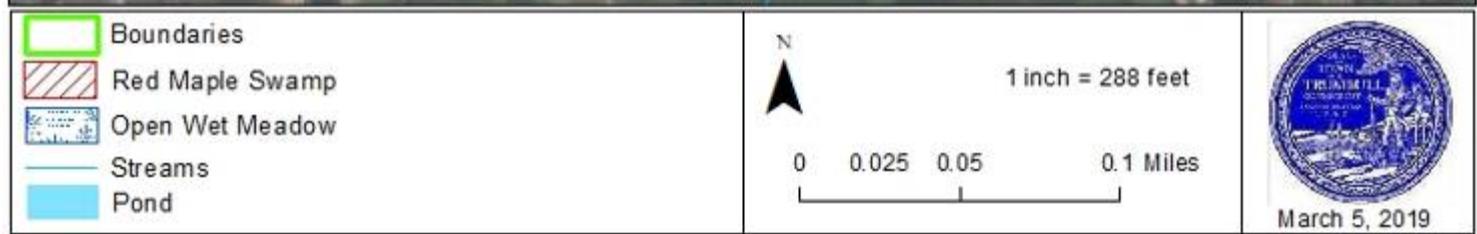
# Main Street-Lake Avenue-Bittersweet Lane Topographic Map



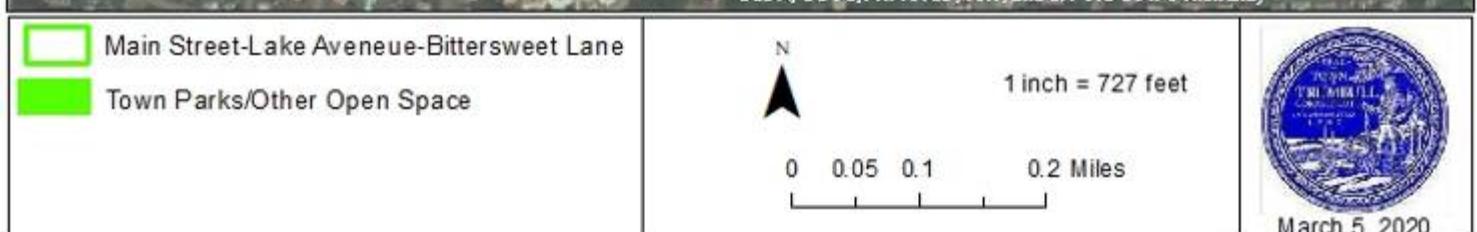
# Main Street-Lake Avenue-Bittersweet Lane Streams & Wetland Soils Map



# Main Street-Lake Avenue-Bittersweet Lane Ecological Communities Map



# Main Street-Lake Avenue-Bittersweet Lane Surrounding Open Space Map



THREATS:

- Flooding-parcels are in FEMA floodplain
- Water/stormwater pollution from leaching tires and other debris
- Litter-dozens of tires float in the wetland; construction debris from the adjacent gas station lies along the boundary
- Climate change increasing flooding
- Invasive phragmites, mugwort, multi-flora rose, ailanthus trees and knotweed

RECOMMENDATIONS:

- Clean up trash that creates an eyesore along Main Street

PLANT INVENTORY MARCH 5, 2020 (more species would be observed during the growing seasons):

**Trees:**

Acer platanoides (Norway maple)  
Acer rubrum (red maple)  
Ailanthus altissima (tree of heaven)  
Betula alleghaniensis (yellow birch)  
Betula lenta (black birch)  
Carya ovata (shagbark hickory)  
Fagus grandifolia (American beech)  
Fraxinus americana (white ash)  
Hamamelis virginiana (staghorn sumac)  
Juglans nigra (black walnut)  
Liriodendron tulipifera (tulip tree)  
Nyssa sylvatica (tupelo)  
Salix spp. (willow)  
Ulmus americana (American elm)

**Shrubs:**

Alnus serrulata (smooth [common] alder)  
Clethra alnifolia (pepperbush)  
Cornus amomum (silky dogwood)  
Lindera benzoin (spicebush)

**Herbs:**

Artemisia vulgaris (common mugwort)  
Polygonum cuspidatum (Japanese knotweed)

**Vines:**

Celastrus orbiculatus (Asiatic bittersweet)  
Parthenocissus quinquefolia (Virginia creeper)  
Toxicodendron radicans (poison ivy)  
Vitis sp. (grape)

**Sedges & Rushes:**

Carex stricta (tussock sedge)

**Grasses:**

Phragmites australis (giant reed grass)

**Ferns and allies:**

Onoclea sensibilis (sensitive fern)

## SHELTON TERRACE

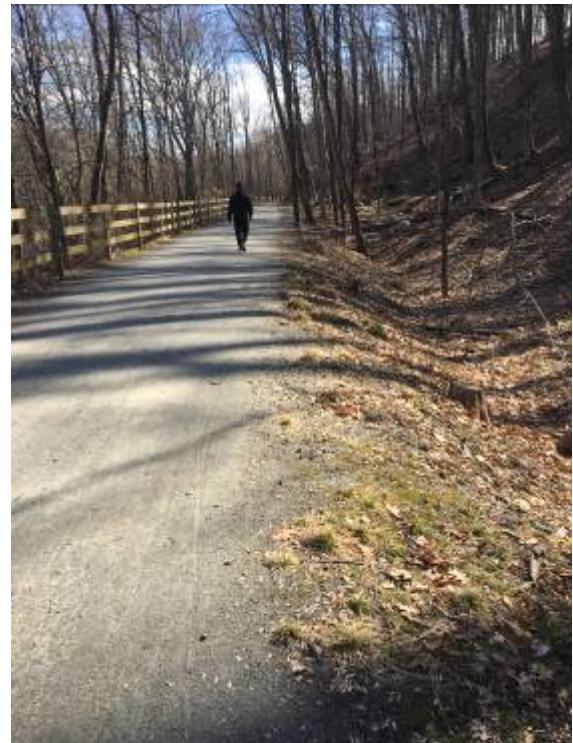
March 5, 2020 Field Survey

CONSERVATION VALUES include: Forests, evergreens, part of Pequonnock River Valley Rail Trail, wetlands and vernal pools, riparian zones, floodplain forests, streams and seeps, sections of the Pequonnock River, shrubland, meadows and grasslands, greenways connecting Pequonnock River Valley Park segments, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

### PROPERTY DESCRIPTION:

These 7.61 acres are made up of two parcels on opposite sides of the Pequonnock Valley Rail Trail. The parcel on the east extends to the Pequonnock River and is 1.4 acres in size; the parcel to the west is very steep and is 6.21 acres in size. Elevations drop from 410 feet above sea level at the plateau along the western boundary to a low point of 190 feet in elevation at the river (see Elevations Map page 446 and Topographic Map page 447). The steep hillside along the Rail Trail drops 100 feet over a short distance and is quite spectacular.

The parcels are in the center of Trumbull (see Location Map page 444). The parcels are bordered by the Pequonnock River Valley Park to the north, east and south and by single family homes to the west and are accessible only via the Rail Trail (see Surrounding Open Space Map page 450). The parcels are wooded except for the western boundary where a neighbor appears to have mowed over the property line, creating lawn (see Satellite Photograph Map page 445 and Ecological Communities Map page 449).



View south of Rail Trail

The Shelton Terrace parcels have the following Ecological Communities (see Ecological Communities Map page 449 and Plant Inventory page 453):

OAK-HICKORY-3 acres

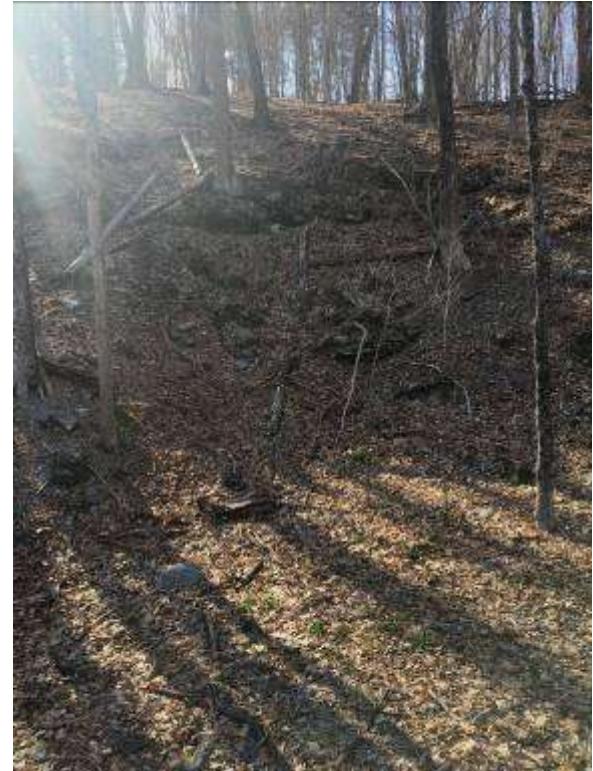
MAPLE-BEECH-2 acres

RED MAPLE SWAMP-1.4 acres

WHITE PINE GROVE-0.5 acres

LAWN-0.5 acres

INVASIVE SHRUBS-0.5 acres



OAK-HICKORY-3 acres

Small to medium sized pignut and shagbark hickory trees are found on the higher and flatter western portion of the west parcel. Other trees include black birch and red maples. This forest is younger than the forest along the Rail Trail and the stone walls along the edge of the steep hillside indicate that this area was farmland in the past.

MAPLE-BEECH-2 acres

Large sugar maple, ash, black birch, red oak and white oak trees grow on the steep hillside just west of the Rail Trail. Several seeps create wetland conditions on the sides of the hill and elm trees, spicebush and witch hazel shrubs are found there. Christmas and intermediate wood ferns and woodland sedges grow out of the rocky cliffs.

Steep hillside

#### RED MAPLE SWAMP-1.4 acres

This area along the Pequonnock River has large wetland tree species including tulip, shagbark hickory, ash, sycamore and yellow birch. Many of the ash trees are dying from the emerald ash borer; several have already fallen.

Other trees growing here are large black cherries, black oaks and black birch. The shrub layer is sparse and includes spicebush, witch hazel and a few rhododendron shrubs. Silky dogwood shrubs grow along the riverbank. Many wood frogs were heard calling in this area on March 5, 2020 indicating that there are vernal pools associated with this wetland that likely provide habitat for other reptile and amphibian species in addition to wood frogs.

#### WHITE PINE GROVE-0.5 acres

This stand is found on the plateau above the steep hillside and was most likely planted since white pine, though native, are more common north of this region.

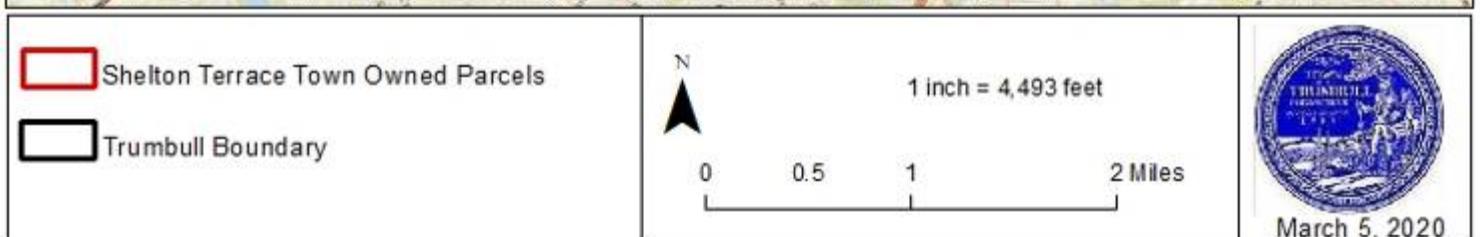
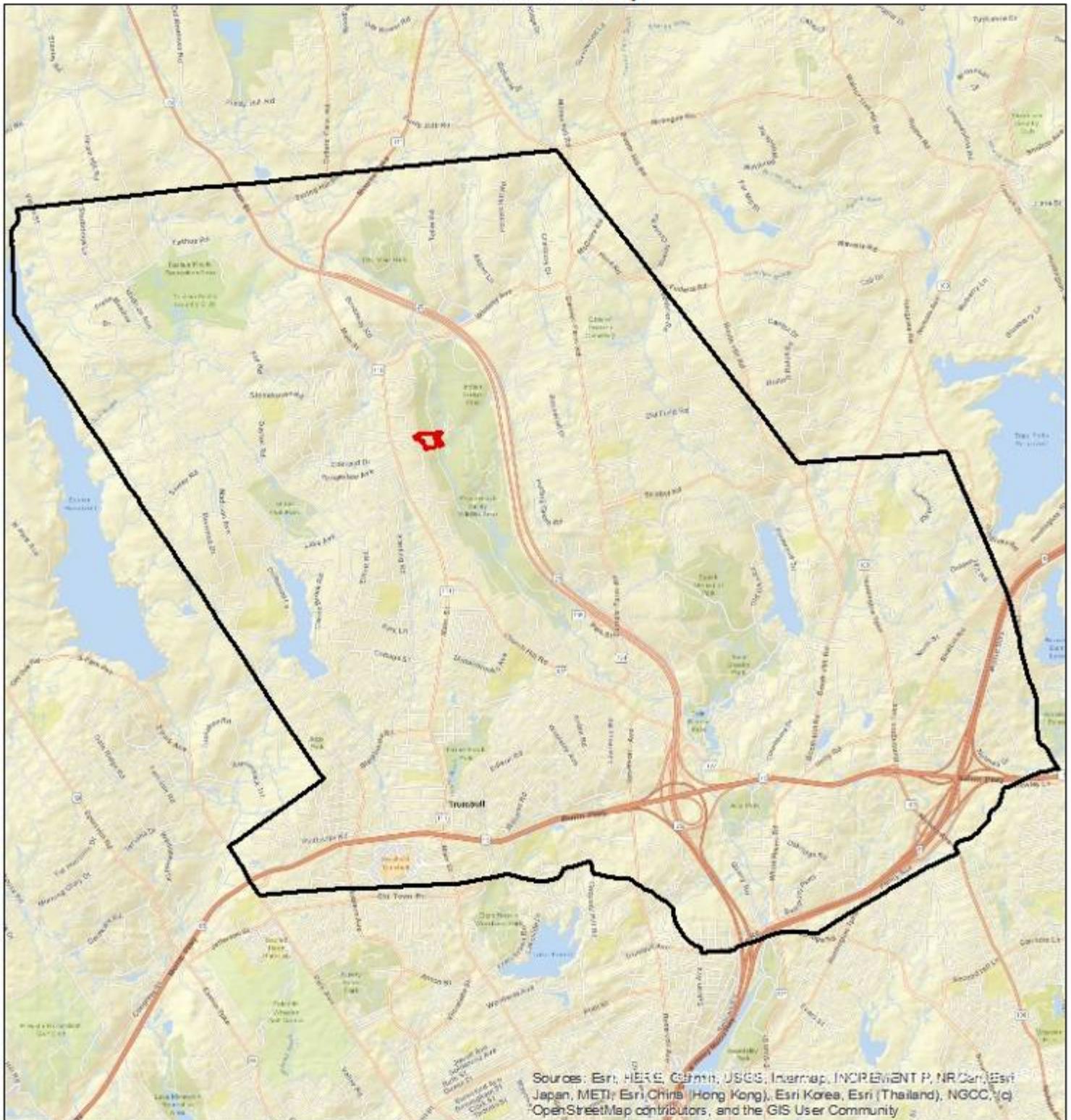
#### LAWN-0.5 acres

One or two neighbors have expanded their lawns by mowing over the property line onto town property (see Incursion Map page 451). Signs can be posted here to inform landowners that this is town property and should be left undisturbed to regenerate.

#### INVASIVE SHRUBS-0.5 acres

The eastern side of the Rail Trail is lined with invasive burning bush and invasive honeysuckle shrubs. Other invasive plants include several large Norway maples growing on the hillside and many invasive Asiatic bittersweet vines growing high into the trees on the river side of the Rail Trail. Several trees have been taken down along the Trail for safety reasons and others are marked for removal. The tree company doing this work might also be contracted with to cut and possibly treat the invasive shrubs to prevent them from spreading into the more pristine areas of the Pequonnock River Valley Park.

# Shelton Terrace Location Map



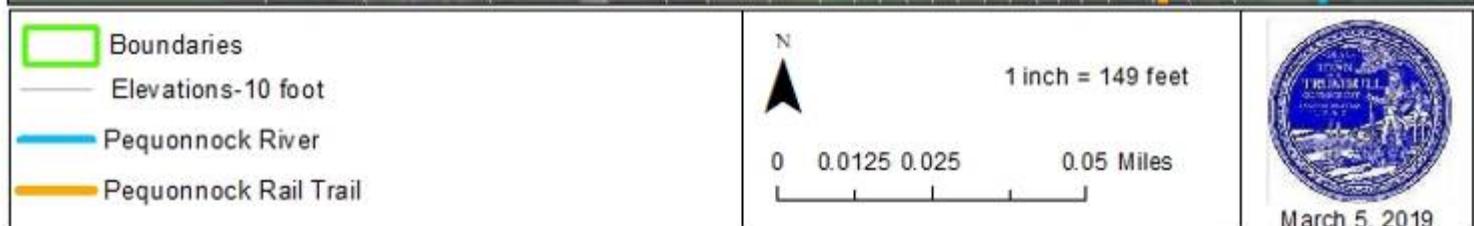
# Shelton Terrace Satellite Photograph Map



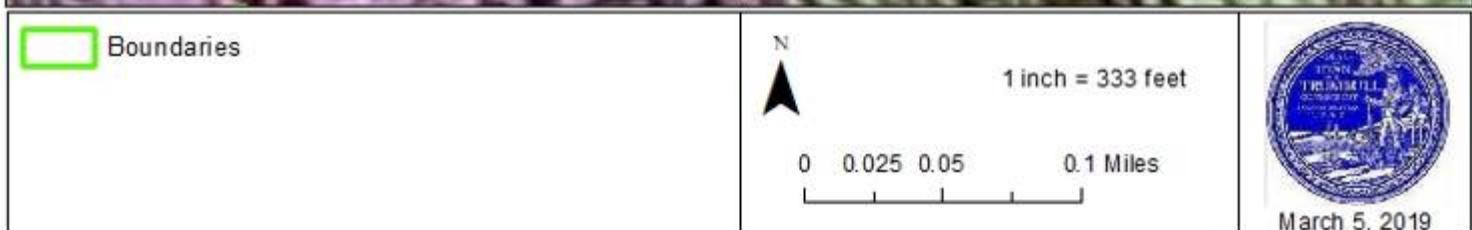
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<p>■ Boundaries</p> <p>— Pequonnock River</p> <p>— Pequonnock Rail Trail</p>	<p>N</p> <p>1 inch = 149 feet</p> <p>0 0.0125 0.025 0.05 Miles</p>	 <p>March 5, 2019</p>
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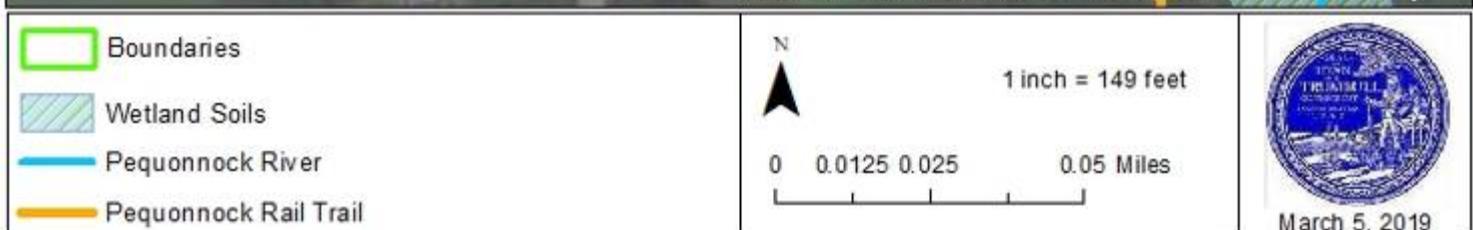
# Shelton Terrace Elevations Map



# Shelton Terrace Topographic Map



# Shelton Terrace Streams & Wetland Soils Map

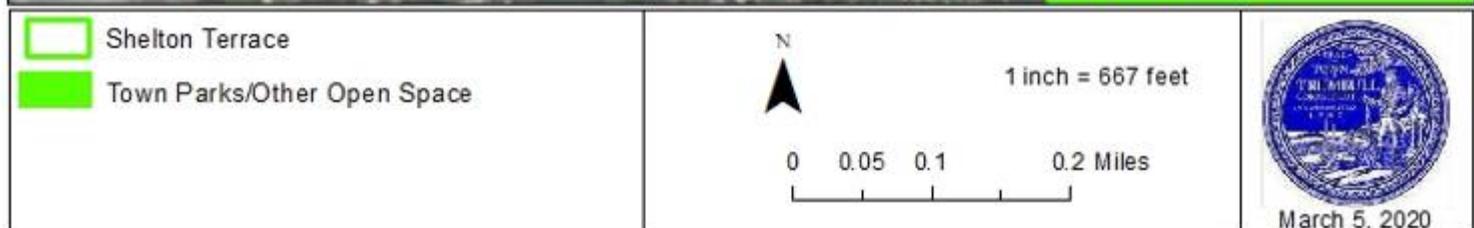


# Shelton Terrace Ecological Communities Map

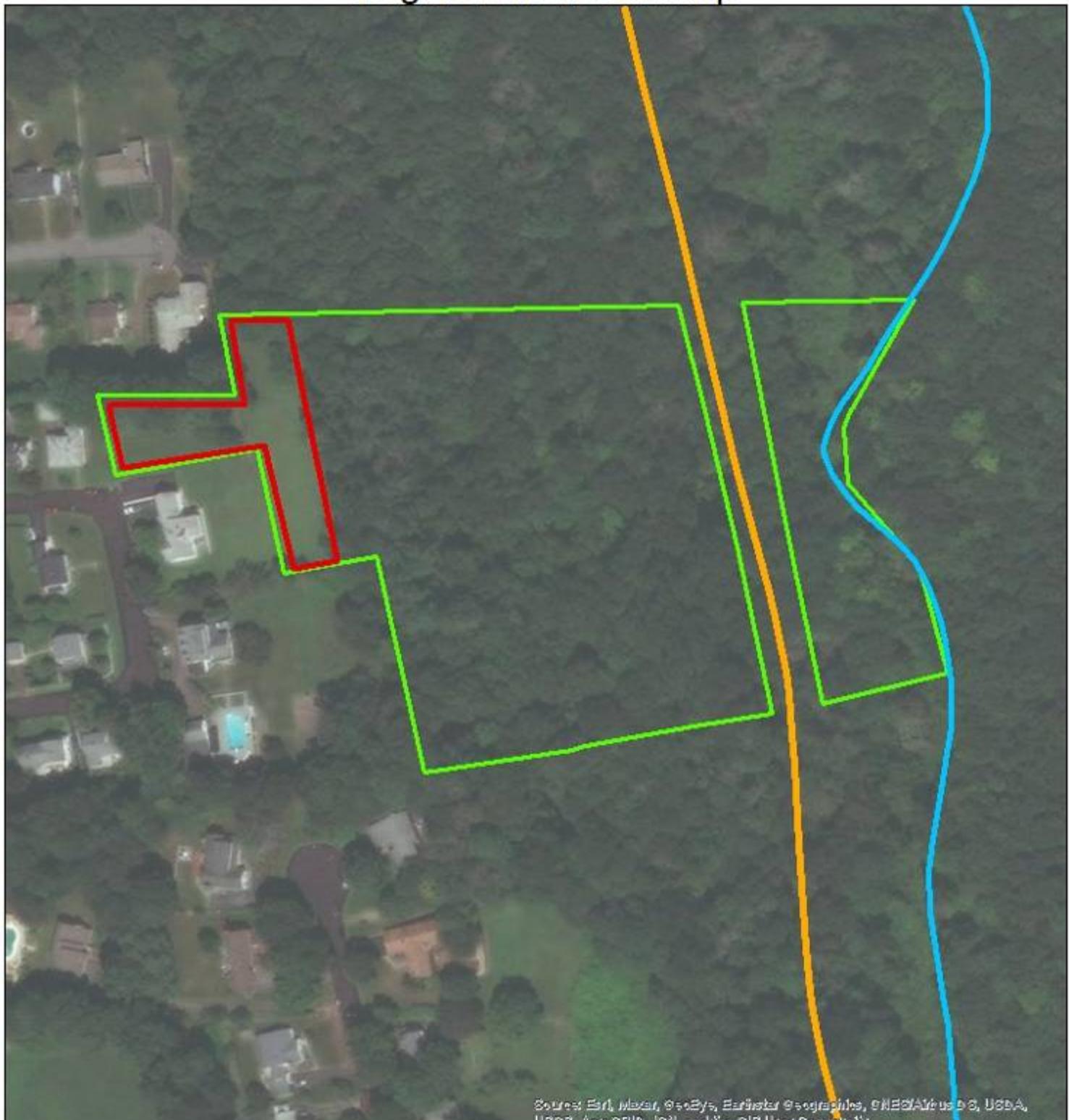


<p><span style="border: 1px solid green; padding: 2px;"> </span> Shelton Terrace Boundaries 7.61 acres</p> <p><span style="background-color: #d3d3d3; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Wetland Soils</p> <p><span style="color: blue;">—</span> Pequonnock River</p> <p><span style="color: orange;">—</span> Pequonnock Rail Trail</p> <p><span style="background-color: #6aa84f; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Mowing by Neighbor</p>	<p><span style="background-color: #ffff99; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Oak-Hickory Stand</p> <p><span style="background-color: #d3d3d3; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Maple-Beech Stand</p> <p><span style="background-color: #c0392b; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Red Maple Swamp</p> <p><span style="background-color: #a52a2a; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Invasive Shrubs</p> <p><span style="background-color: #228b22; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> White Pine Grove</p>	<p>N</p> <p>1 inch = 149 feet</p> <p>0 0.0125 0.025 0.05 Miles</p>	 <p>March 5, 2019</p>
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# Shelton Terrace Surrounding Open Space Map



# Shelton Terrace Neighbor Incursion Map



<ul style="list-style-type: none"><li>Shelton Terrace Boundaries</li><li>Incursion by Neighbor</li><li>Pequonnock River</li><li>Pequonnock Rail Trail</li></ul>	<p>N</p> <p>1 inch = 149 feet</p> <p>0 0.0125 0.025 0.05 Miles</p>	 <p>March 5, 2019</p>
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THREATS:

- Clearing of approximately 0.5 acres by neighbors along west boundary
- Invasive burning bush and honeysuckle shrubs
- Bittersweet vines killing trees
- Ash disease
- Litter-Park is well maintained now and litter-free

RECOMMENDATIONS:

- Signs posting boundary to prevent neighbors from mowing town land
- Regulation/Enforcement of trespass
- Monitor/remove invasive burning bush and honeysuckle
- Cut bittersweet vines in trees by Rail Trail
- Continue to clean up trash

PLANT INVENTORY MARCH 5, 2020 (more species would be observed during the growing seasons):

**Trees:**

*Acer platanoides* (Norway maple)  
*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carya cordiformis* (bitternut hickory)  
*Carya glabra* (pignut hickory)  
*Carya ovata* (shagbark hickory)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Liriodendron tulipifera* (tulip tree)  
*Pinus strobus* (white pine)  
*Platanus occidentalis* (American sycamore)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Ulmus americana* (American elm)

**Shrubs:**

*Alnus serrulata* (smooth [common] alder)  
*Cornus amomum* (silky dogwood)  
*Euonymus alatus* (winged euonymus)  
*Hamamelis virginiana* (witch hazel)  
*Ligustrum* sp. (privet)  
*Lindera benzoin* (spicebush)  
*Lonicera morrowii* (Morrow's honeysuckle)  
*Rhododendron maximum* (rhododendron)  
*Rosa multiflora* (multiflora rose)  
*Rubus phoenicolasius* (wineberry)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Sedges & Rushes:**

*Carex blanda* (woodland sedge)  
*Carex pensylvanica* (Pennsylvania sedge)  
*Carex stricta* (tussock sedge)

**Ferns and allies:**

*Dryopteris intermedia* (intermediate wood fern)  
*Polystichum acrostichoides* (Christmas fern)

**Amphibians and Reptiles- observed:**

*Rana sylvatica* (wood frog)

## GRAY ROCK/BOOTH HILL ROAD

April 7, 2020 Field Survey

**CONSERVATION VALUES** include: Forests including large trees some 30 inches in diameter, hemlock trees, wetlands, riparian zones, floodplain forests, streams and seeps flowing into Pinewood Lake, cliffs, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

### PROPERTY DESCRIPTION:

This 6.9 acre assemblage is comprised of three parcels located in the far eastern portion of Trumbull (see Location Map page 458). The parcels are not accessible. The frontage along Booth Hill Road is extremely steep while the access on Gray Rock Road is a narrow strip of lawn between two residences (see Satellite Photograph Map page 459). The parcels are surrounded by dense single-family housing (see Surrounding Open Space Map page 464).



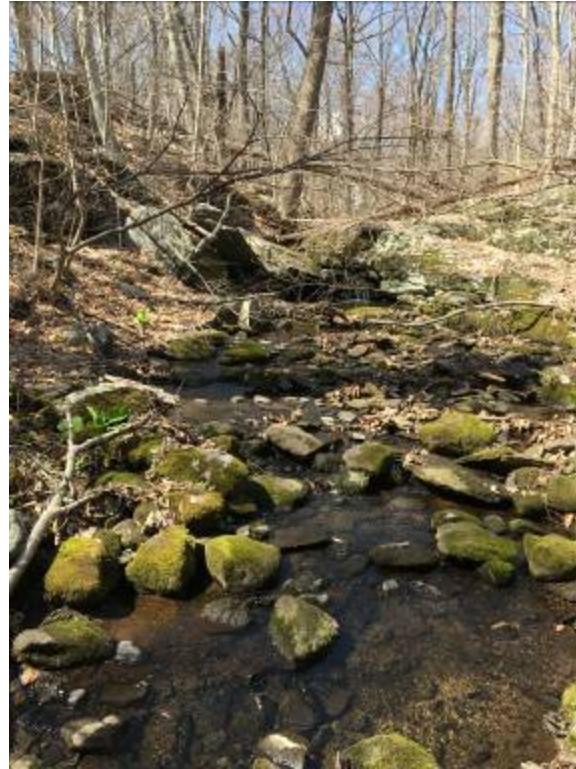
Access is very steep along Booth Hill Road



Trees have been cut along Booth Hill Road

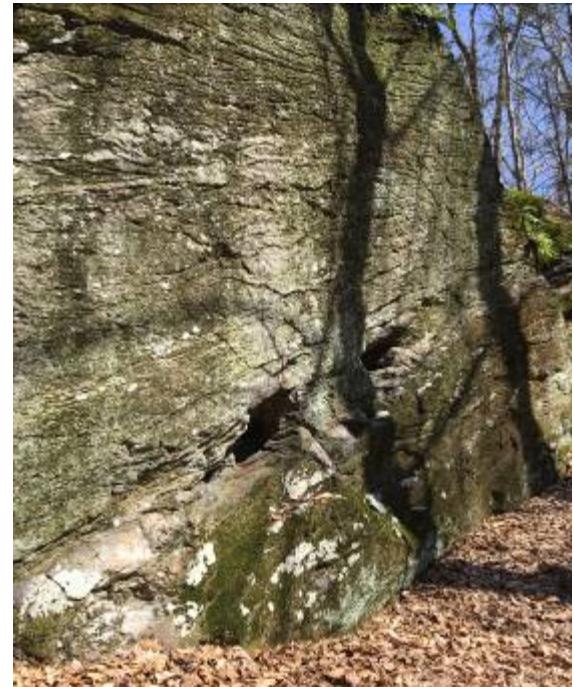
## GRAY ROCK/BOOTH HILL ROADS

An unnamed stream flows through a ravine in the center of the parcel and continues for 0.4 miles before emptying into Pinewood Lake to the south (see Streams & Wetlands Map page 462).



Stream in center of parcels

The eastern sides of the parcels are steeply sloped with elevations of 380 feet above sea level dropping to 290 feet at the stream bottom along the southern boundary (see Elevation Map page 460 and Topographic Map page 461). 50 foot high cliffs run for 400 feet along the eastern boundary and are quite dramatic and attractive with rock tripe and rock polypody growing out of the rocks.



Cliffs along eastern boundary



Rock polypody growing on cliff

Land on the east side of the center stream is steep with red and black oaks averaging approximately 22 inches in diameter. Hemlocks grow in the steepest parts and many have died and fallen to the ground due to wooly adelgid infestations. The understory consists of beech, black birch and sassafras trees with mountain laurel in the shrub layer. Ground cover has Pennsylvania sedge, Canada mayflower, white wood aster, partridgeberry and dewberry.

The area around the stream is lower in elevation and flatter with large tulip, white oak and ash trees. Some larger tulip trees are 30 inches in diameter. The understory has large yellow birch and medium-sized black birch, tupelo and ironwood trees. Shrubs along the stream include spicebush and witch hazel. Skunk cabbage and hellebore grow in the wettest areas around the stream along with jewelweed and Christmas fern.

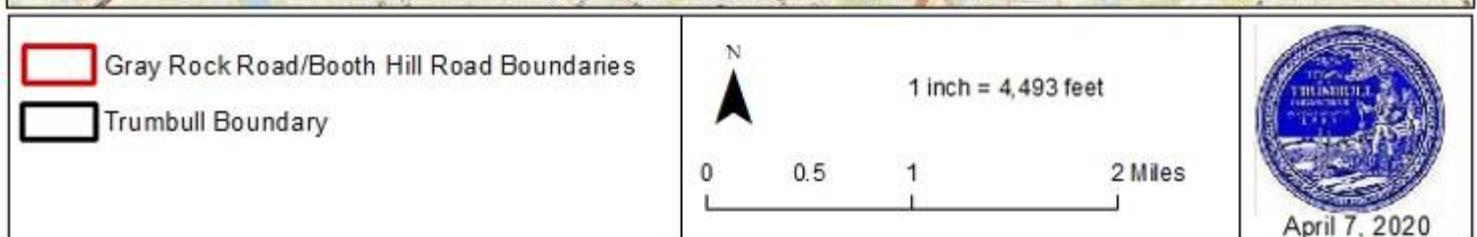
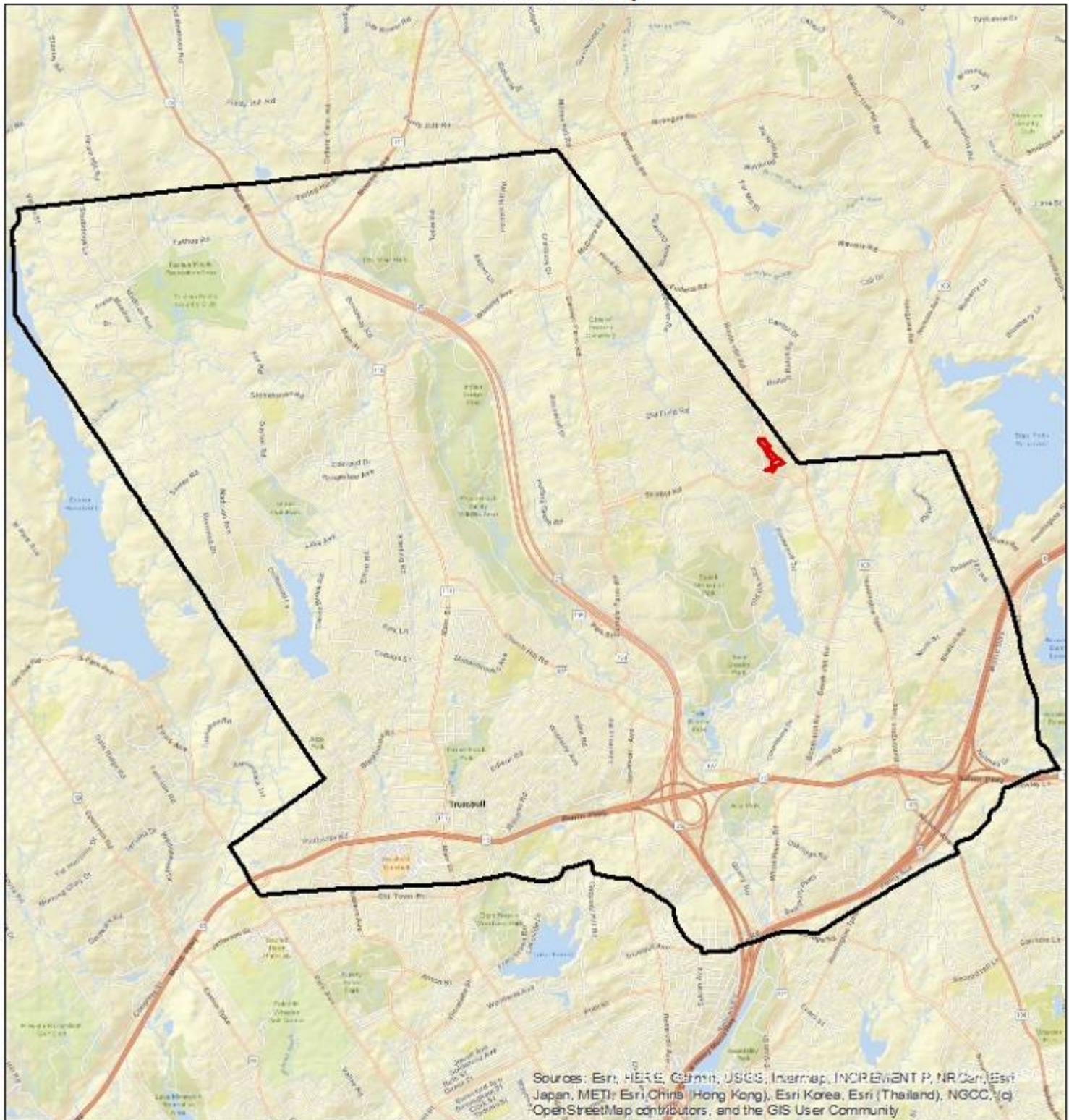
The southwest portion of the assemblage is a uniformly flat wetland dominated by skunk cabbage and hellebore plants.

These parcels are too small and inaccessible for trails except for use by immediate neighbors along the flatter west side of the stream. Several deer were seen here indicating that this wooded area serves as a refuge for deer and possibly other wildlife in a densely populated area. The properties are free of invasive plants but have the usual discarded tires and drums in the stream and litter along the Booth Hill Road side. Despite these limitations, once in the ravine the fast-flowing stream and sharp cliffs are quite dramatic and attractive.

The Gray Rock Road/Booth Hill Road assemblage has the following ecological communities (see Ecological Communities Map page 463 and Plant Inventory page 466):

Tulip-Ash Stand	3 acres
Beech Grove	1.5 acres
Oak-Hickory Stand	1 acre
Wetland	1 acre
Hemlock Grove	0.3 acres
Cliff	<u>0.2 acres</u>
	6.9 acres

# Gray Rock Road/Booth Hill Road Location Map



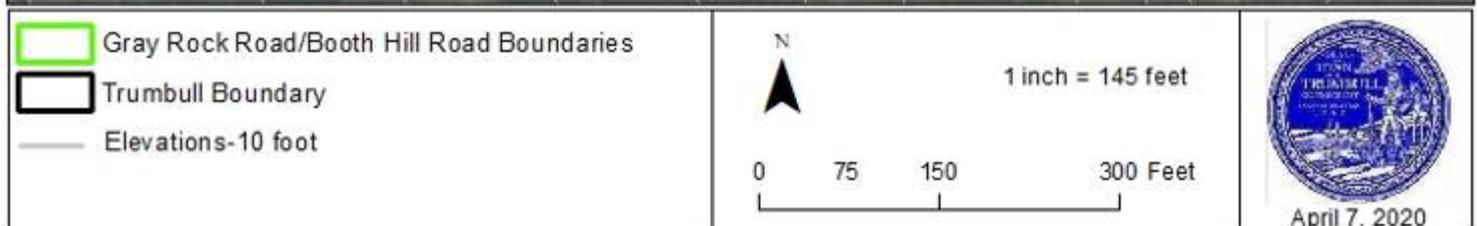
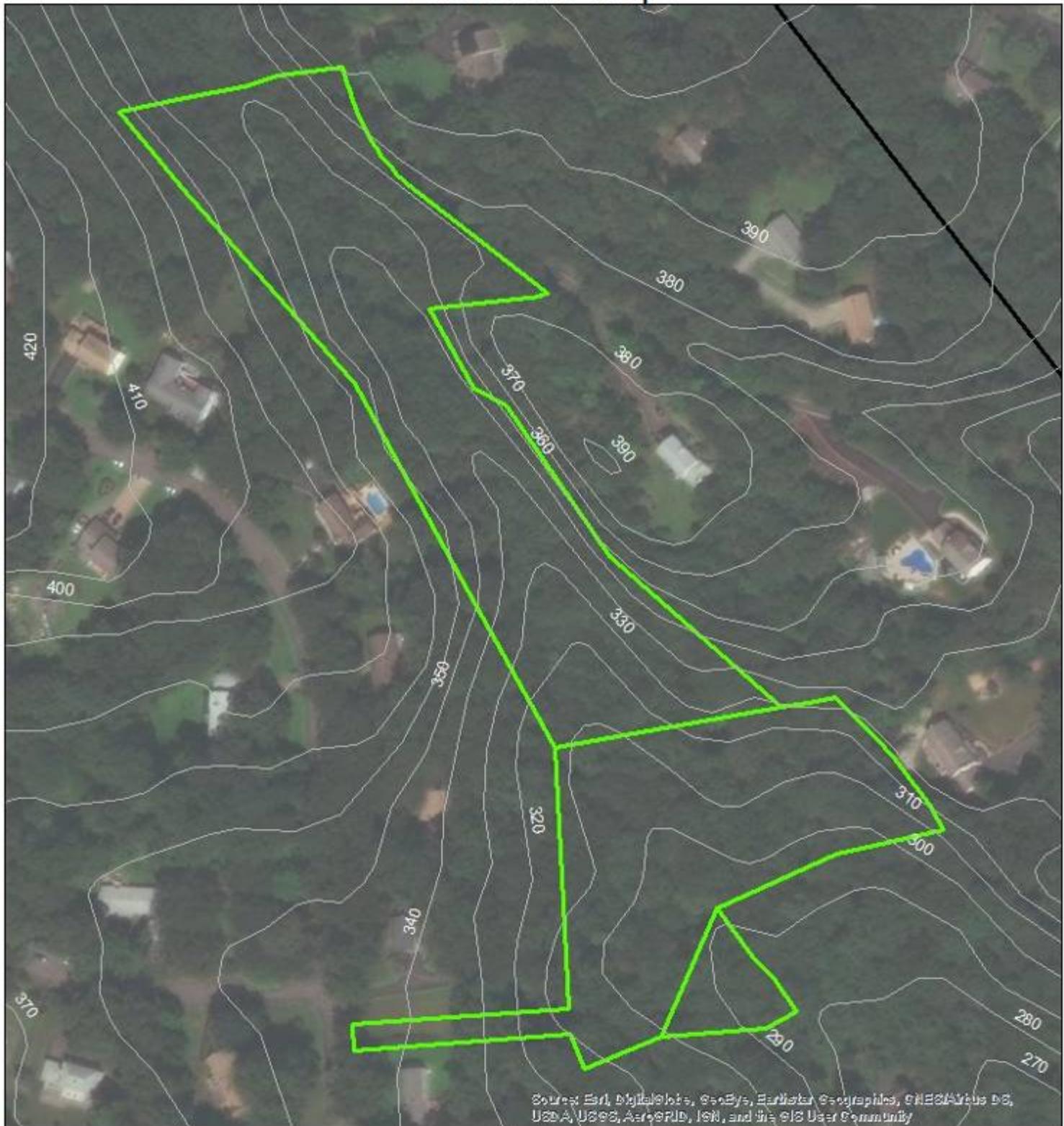
# Gray Rock Road/Booth Hill Road Satellite Photograph Map



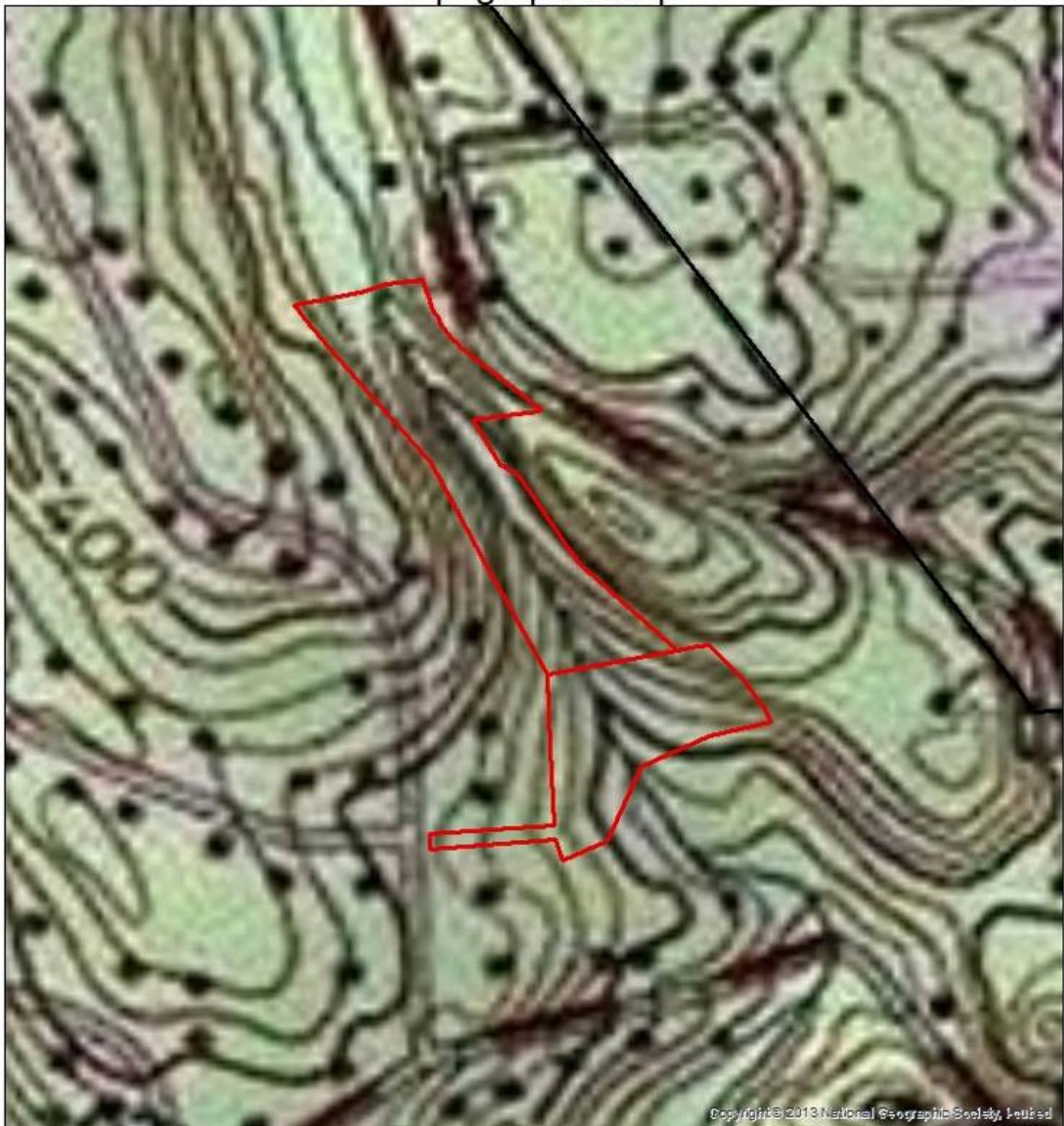
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IHS, and the GIS User Community

<p> Gray Rock Road/Booth Hill Road Boundaries</p> <p> Trumbull Boundary</p>	<p>N</p> 	<p>1 inch = 145 feet</p> <p>0 75 150 300 Feet</p>	 <p>April 7, 2020</p>
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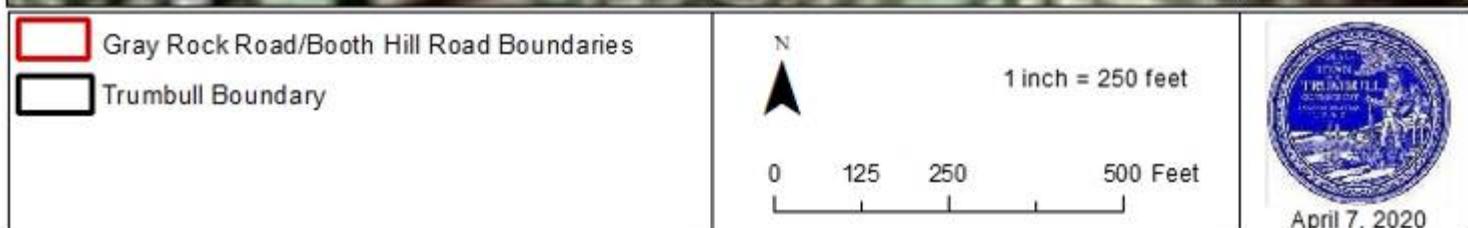
# Gray Rock Road/Booth Hill Road Elevations Map



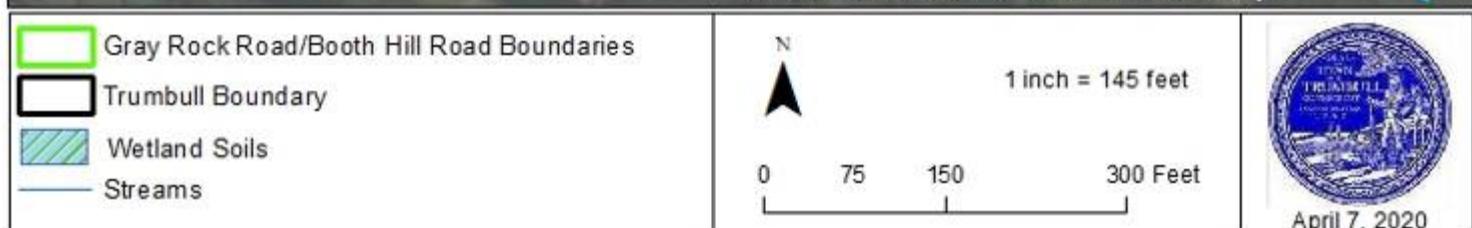
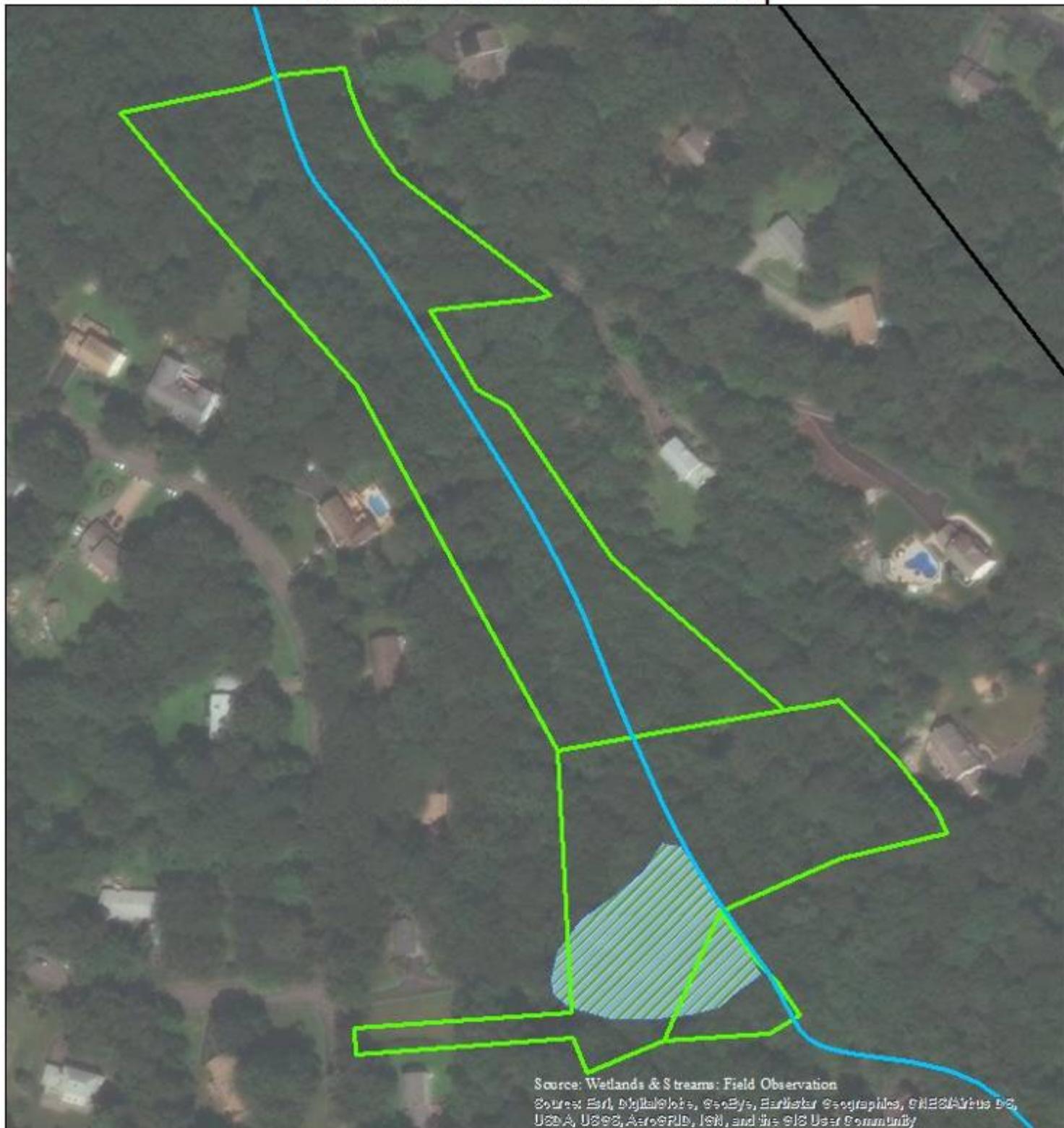
# Gray Rock Road/Booth Hill Road Topographic Map



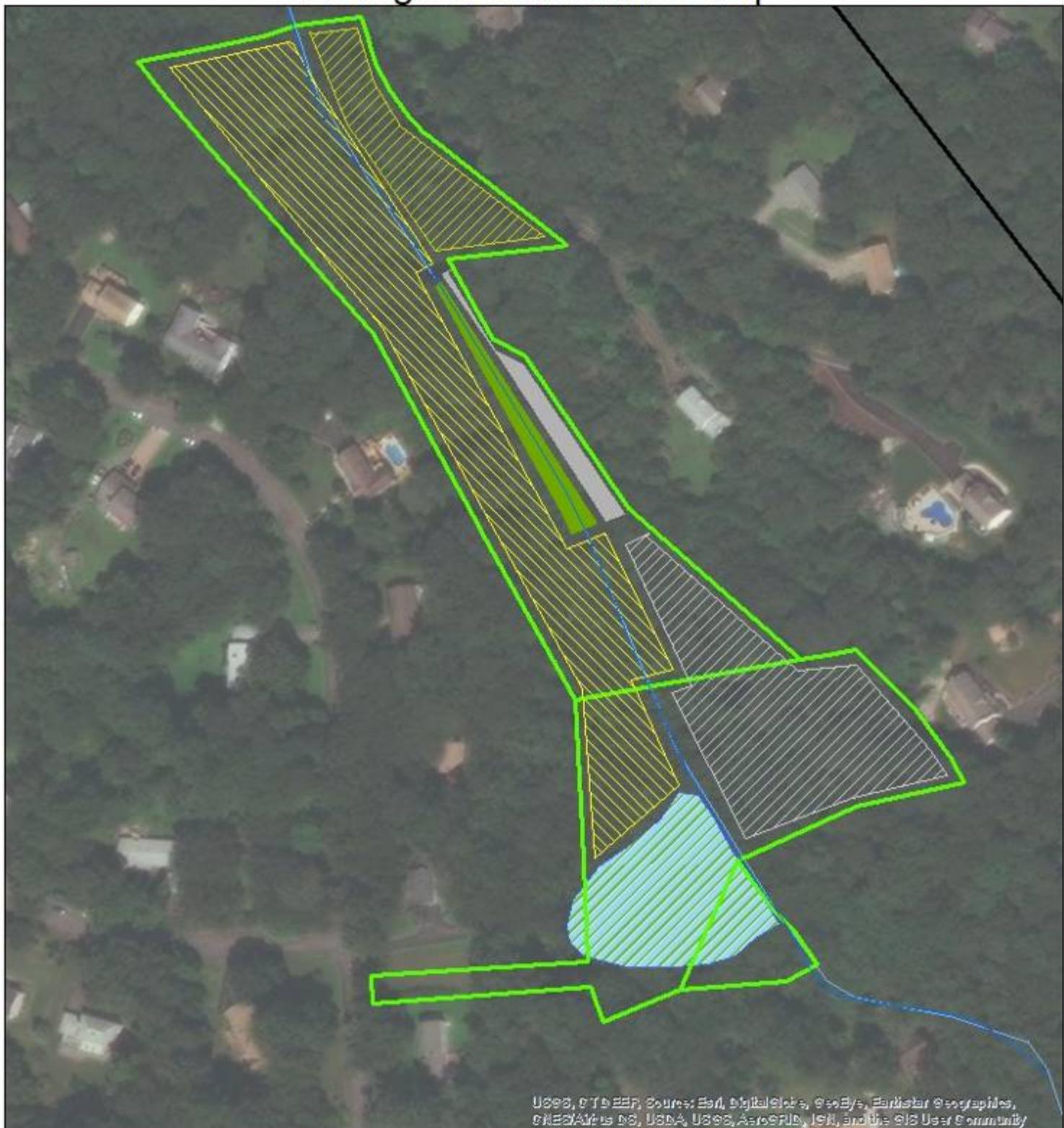
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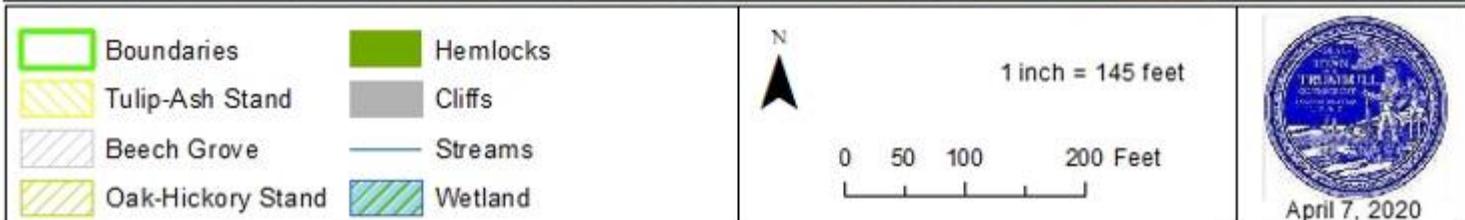
# Gray Rock Road/Booth Hill Road Streams & Wetland Soils Map



# Gray Rock Road/Booth Hill Road Ecological Communities Map

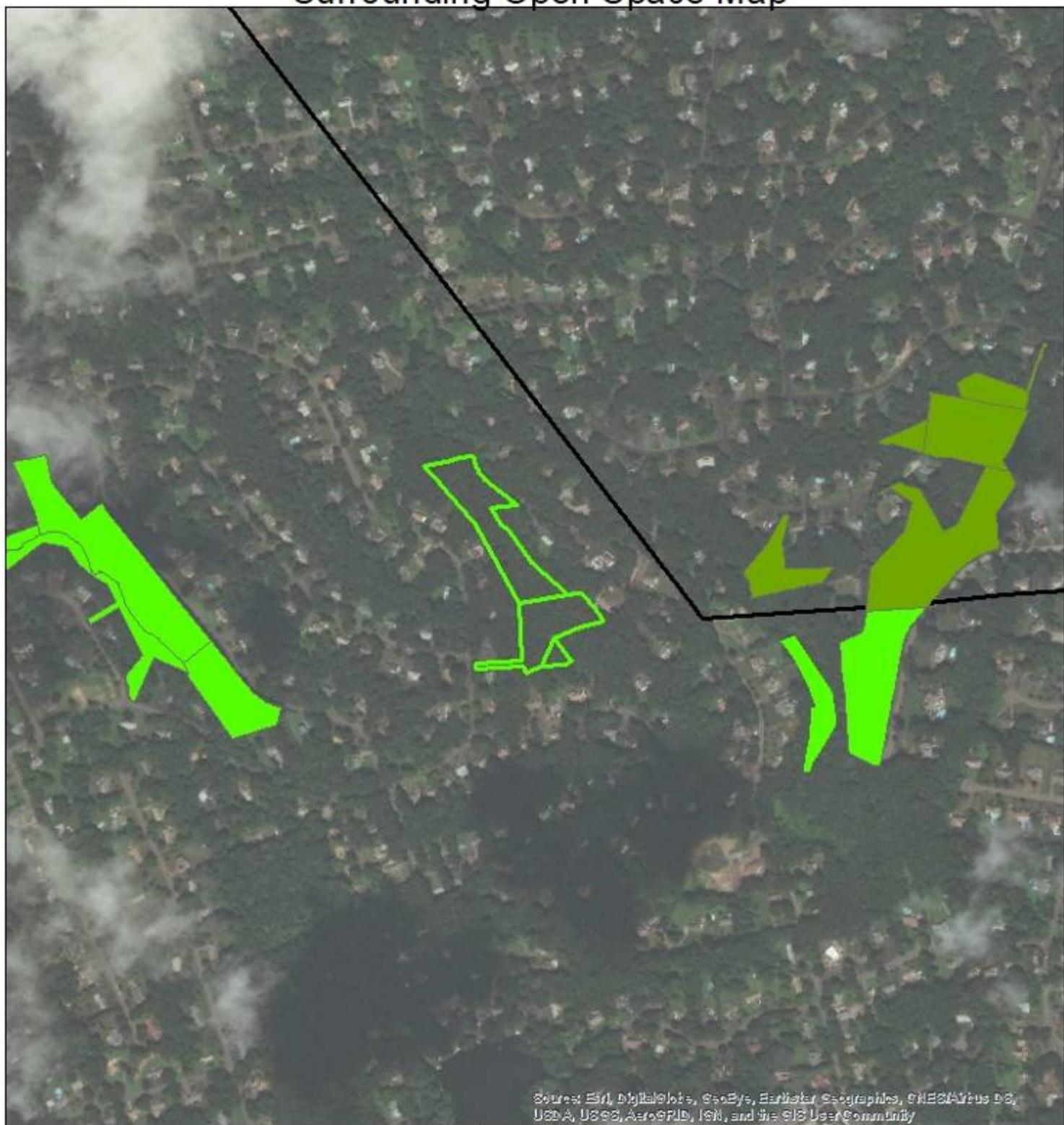


Used, with BEEF, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



April 7, 2020

# Gray Rock Road/Booth Hill Road Surrounding Open Space Map



<ul style="list-style-type: none"><li>Trumbull</li><li>Gray Rock Road/Booth Hill Road Boundaries</li><li>Other Town Open Space</li><li>Town of Shelton Open Space</li></ul>	<p>N</p> <p>1 inch = 667 feet</p> <p>0 250 500 1,000 Feet</p>	 <p>April 7, 2020</p>
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THREATS:

- Water/stormwater pollution flowing into Pinewood Lake
- Erosion of steep slopes
- Diseases/woolly adelgid killing hemlock trees
- Deer browse
- Litter-tires and drums are in stream, litter along Booth Hill Road

RECOMMENDATIONS:

- Steep slope protection
- Clean up trash/post no littering-dumping signs

PLANT INVENTORY April 7, 2020 (more species would be observed during the growing seasons):

**Trees:**

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carpinus caroliniana* (ironwood)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Liriodendron tulipifera* (tulip tree)  
*Nyssa sylvatica* (tupelo)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Sassafras albidum* (sassafras)  
*Tsuga canadensis* (eastern hemlock)

**Shrubs:**

*Hamamelis virginiana* (witch hazel)  
*Kalmia latifolia* (mountain laurel)  
*Lindera benzoin* (spicebush)  
*Rosa multiflora* (multiflora rose)

**Herbs:**

*Alliaria petiolata* (garlic mustard)  
*Aster divaricatus* (white wood aster)  
*Impatiens capensis* (orange jewelweed)  
*Pyrola elliptica* (shinleaf)  
*Symplocarpus foetidus* (skunk cabbage)  
*Varatrum viride* (false hellebore)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Mitchella repens* (partridge berry)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Rubus flagellaris* (dewberry)  
*Toxicodendron radicans* (poison ivy)  
*Vitis sp.* (grape)

**Sedges & Rushes:**

*Carex pensylvanica* (Pennsylvania sedge)

**Moss and lichens and fungus:**

*Leucobryum glaucum* (pin cushion moss)  
*Polytrichum spp.* (hair cap moss)  
*Umbilicaria mammulata* (rock tripe)

**Ferns and allies:**

*Polystichum acrostichoides* (Christmas fern)  
*Polypodium virginianum* (rock polypody)

## RANDALL NATURE PRESERVE

(Meadow Road West/Oakland Drive)  
November 1, 2019 Field Survey

CONSERVATION VALUES include: Mature trees, wetlands, riparian zones, floodplain forests, streams and seeps flowing into Horse Tavern/Canoe Brook, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

### PROPERTY DESCRIPTION:

These town-owned 7 acre and 0.63 acre parcels lie 0.4 miles east of Great Oak Park (see Location Map page 469). The parcels are entirely made up of wetland soils, streams and ditches which flow west into the Horse Tavern/Canoe Brook at Great Oak Park and then to Canoe Brook Lake (see Streams & Wetland Soils Map page 470). The center of the larger parcel has approximately 30,000 square feet of fill, perhaps in an attempt to continue Meadowview Drive to Meadow Road West through these wetlands. These parcels serve to buffer these watercourses and to store stormwater flowing from the surrounding residential development; single family homes lie to the north, south, east and west. Neighbors dump yard waste here (one neighbor was observed dumping leaves into the Preserve in November 1, 2019) despite 'no dumping' signs. Neighbors at the eastern boundary of the smaller, 0.63 acre parcel at the end of Oakland Drive have filled the streambank with rip-rap and backfilled it with soil to extend their lawn into the wetland. There are no opportunities for trails given the standing water and small area.



Fill running through center of larger parcel

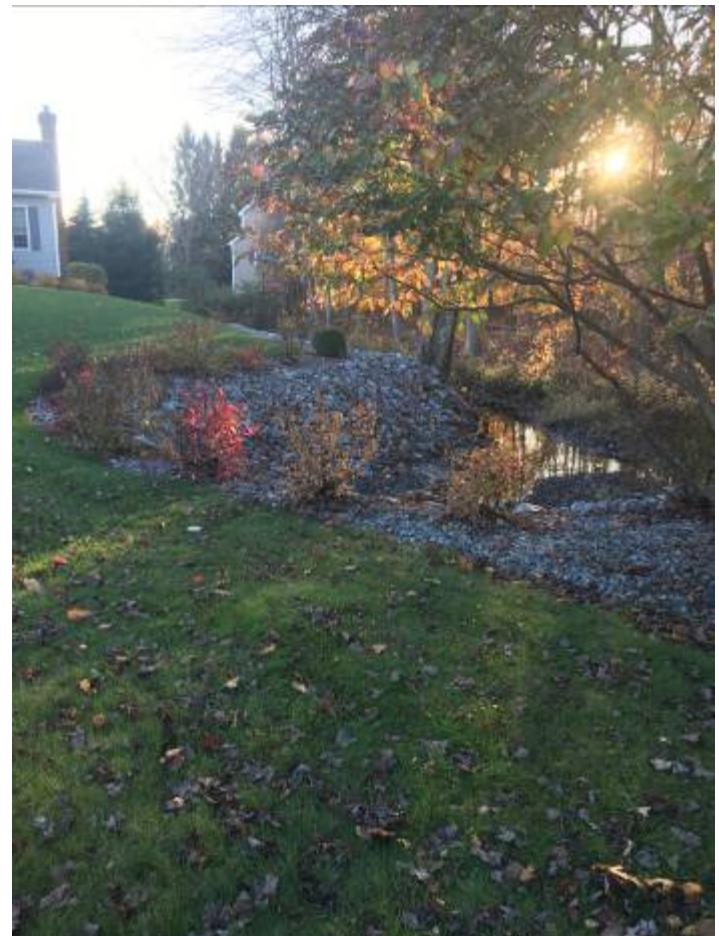


Ditch/stream in larger parcel

The parcels are wooded except for the filled center of the larger parcel. Trees include large tulips and medium-sized red maple, elm, cottonwood and yellow birch. Shrubs include high bush blueberry, winterberry, sweet pepperbush, arrowwood viburnum and spicebush as well as non-native, invasive burning bush. The ground layer has non-native pachysandra and myrtle close to the yards and goldenrod in the filled area.

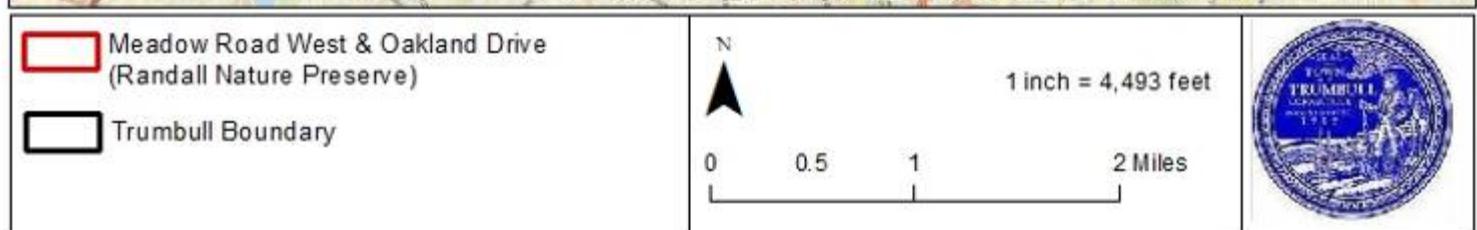
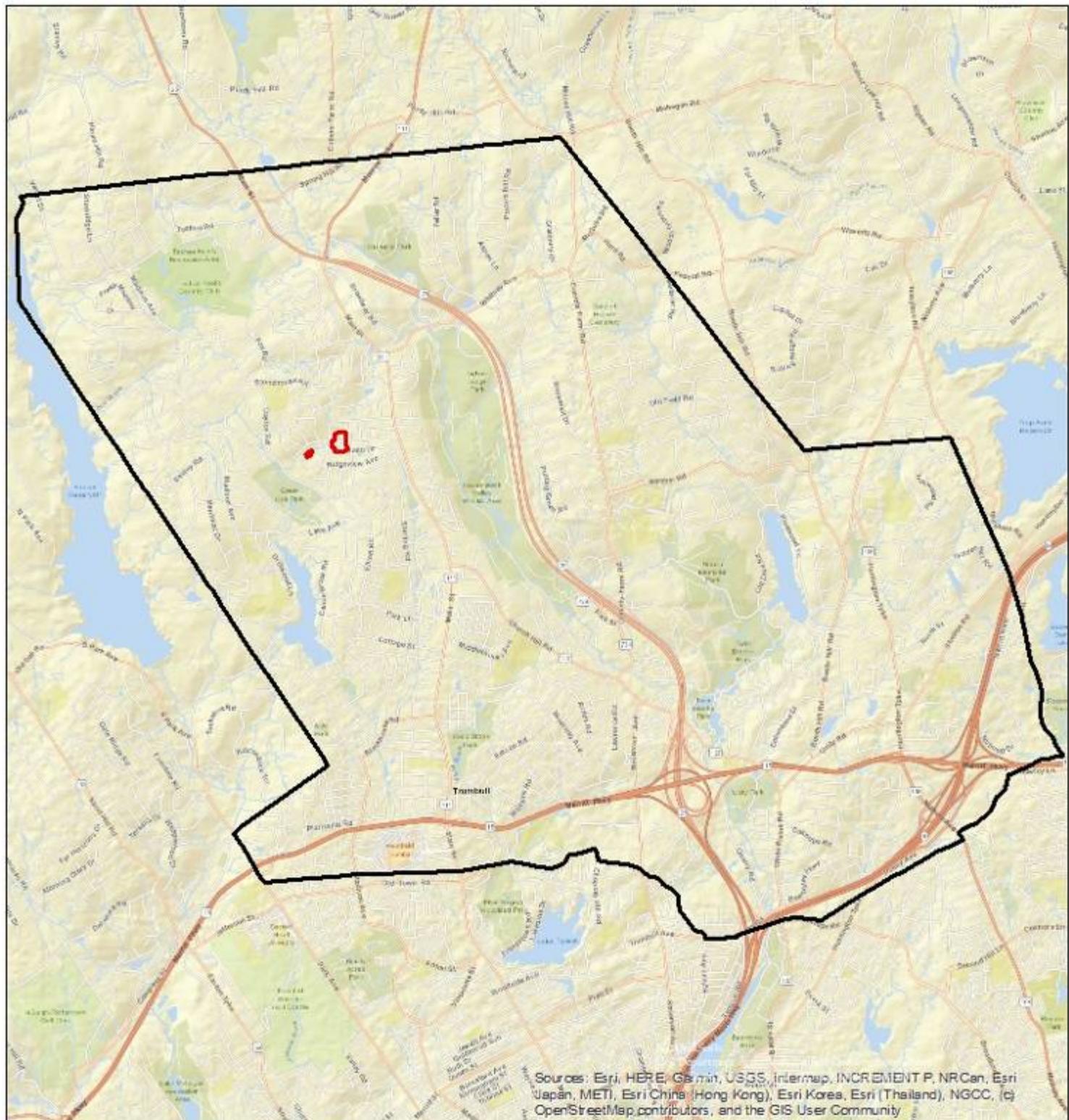


Yard waste dumped by neighbors

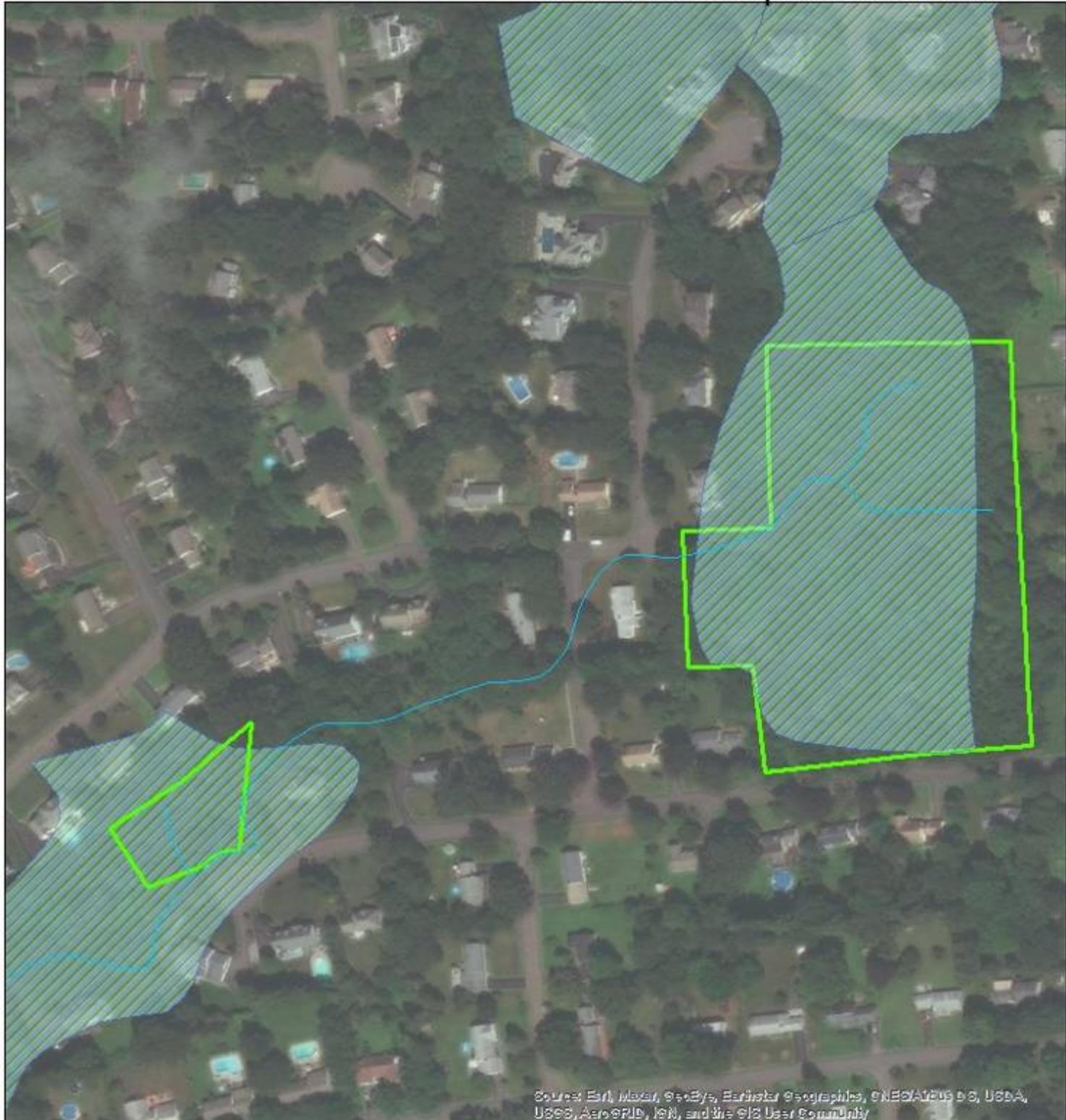


Rip-rap and lawn in stream buffer area

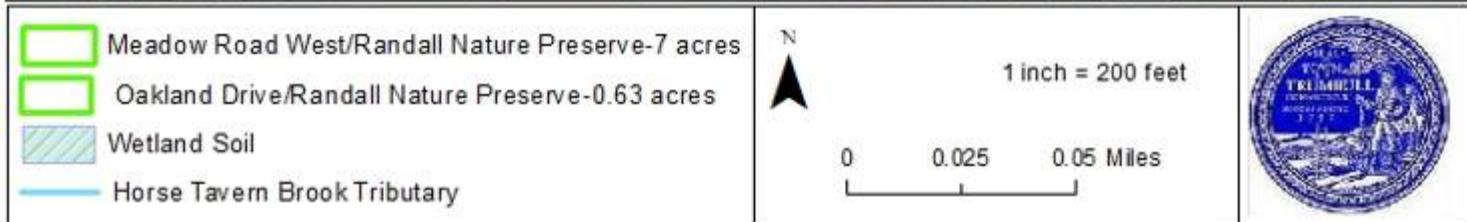
# Meadow Road West & Oakland Drive (Randall Nature Preserve) Location Map



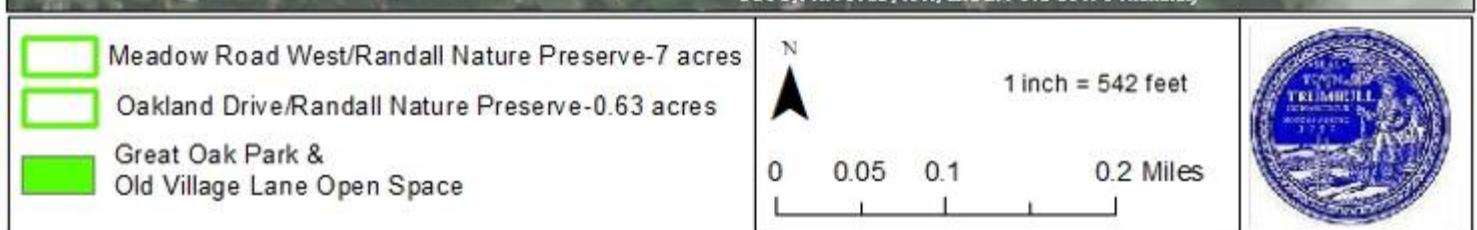
# Meadow Road West & Oakland Drive (Randall Nature Preserve) Streams & Wetland Soils Map



Sources: Esri, Maxar, GeoBays, Barthélémy Géographies, ©NGA/NGDC, USDA, USGS, AeroGRID, IGN, and the OSM User Community



# Meadow Road West & Oakland Drive (Randall Nature Preserve) Surrounding Open Space Map



THREATS:

- Water/stormwater pollution flowing into Horse Tavern/Canoe Brook
- Filling of wetland by neighbors
- Dumping of yard waste by neighbors
- Lack of Land Regulation/Enforcement

RECOMMENDATIONS:

- Stormwater improvements to control stormwater erosion and pollution at culverts
- Regulation/Enforcement of Inland Wetlands & Watercourse ordinance

PLANT INVENTORY  
November 1, 2019 Field Survey

**Trees:**

*Acer rubrum* (red maple)  
*Betula alleghaniensis* (yellow birch)  
*Liriodendron tulipifera* (tulip tree)  
*Populus deltoids* (cottonwood)  
*Ulmus americana* (American elm)

**Shrubs:**

*Clethra alnifolia* (pepperbush)  
*Euonymus alatus* (winged euonymus)  
*Ilex verticillata* (winterberry)  
*Lindera benzoin* (spicebush)  
*Vaccinium corymbosum* (high-bush blueberry)  
*Viburnum dentatum* (arrowwood viburnum)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Arisaema triphyllum* (Jack-in-the-pulpit)  
*Impatiens capensis* (orange jewelweed)  
*Pachysandra terminalis* (pachysandra)  
*Symplocarpus foetidus* (skunk cabbage)  
*Vinca minor* (myrtle, periwinkle)

## HILLTOP DRIVE

November 6, 2019 Field Survey

**CONSERVATION VALUES** include: Mature trees, wetlands and vernal pools, streams and seeps, greenways connecting Hilltop Drive with Nichols Family Cemetery, Nothnagle Memorial Field and Nichols Park, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

### PROPERTY DESCRIPTION:

This 6.73 acre parcel is located in the southeastern section of Trumbull between Routes 8, 108 and the Merritt Turnpike (see Location Map page 476). The parcel has frontage on Hilltop Drive but it is next to a single family house and traverses lawn so it is not a practical entrance at this time. The parcel may be accessed from the north via the Nichols Family Cemetery but this will require permission from the privately owned cemetery. Dogs are not allowed in the cemetery. If allowed, hikers could park at Abraham Nichols Park, cross Shelton Road and continue along the edge of the cemetery to the Hilltop Drive parcel where a loop hiking trail could be blazed (see Surrounding Open Space & Hiking Trails Map page 482).

The Hilltop Drive parcel is entirely wooded and extremely level in elevations (see Satellite Photograph Map page 477, Elevations Map page 478 and Topographic Map page 479). All but the southwestern third of the parcel is wetland, though in November the ground was dry with no standing water (see Streams & Wetland Soils Map page 480). A man-made channel runs north to south in the center of the property, created by farmers to drain the area for agriculture. Another small stream meanders through the eastern section of the property. The property is surrounded by single-family housing and the Nichols Family Cemetery to the north (see Surrounding Open Space Map page 482).

The Hilltop Drive property is entirely wooded with medium-sized mixed deciduous trees (see Satellite Photograph Map page 477 and Ecological Communities Map page 481).

Invasive shrubs dominate the northeastern corner where yard waste from the cemetery has been dumped and spread. Invasive plants found here include burning bush,

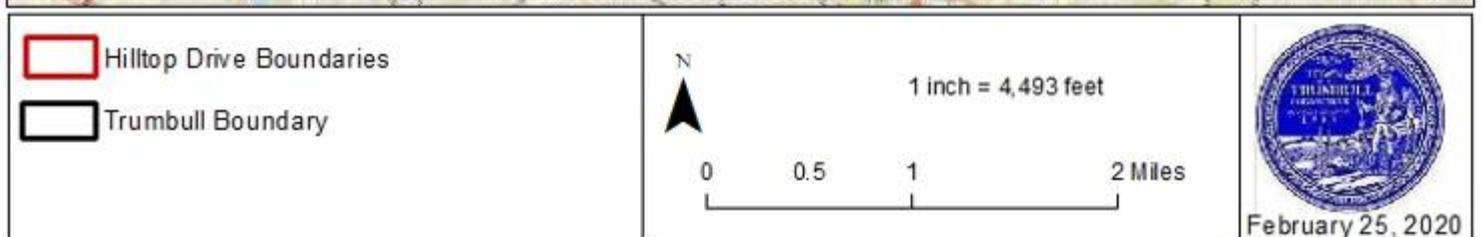
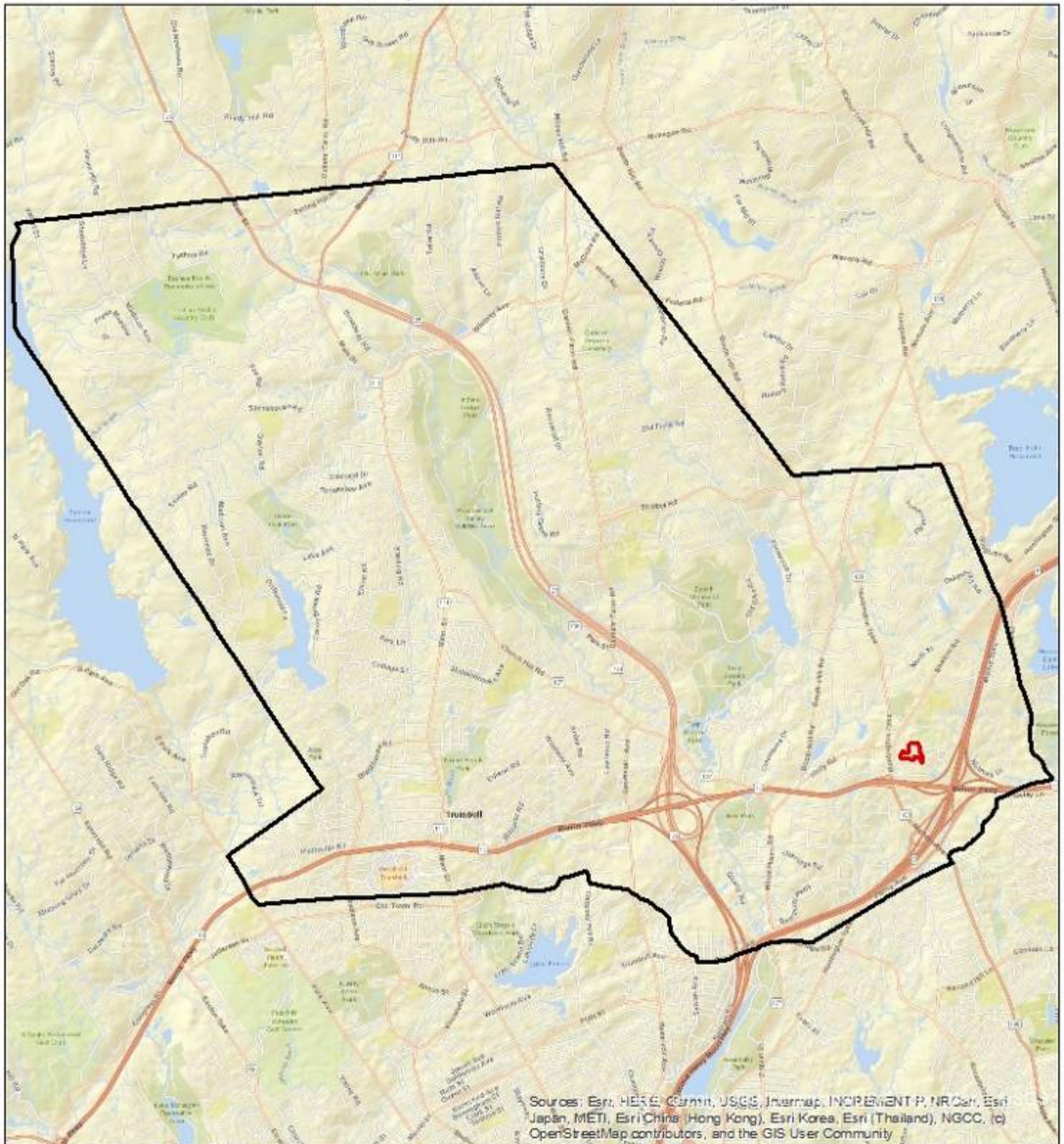
boxwood, Japanese yews, holly and English ivy. Invasive Norway maples also grow here. Between the cemetery and the Hilltop Drive parcel is a dense hedge of invasive Japanese knotweed and invasive ailanthus trees that can spread onto the property.

The eastern half of the parcel can be characterized as a red maple swamp, with red maple, tupelo and ash trees in the canopy and spicebush in the shrub layer. Sugar maple, black birch and shagbark hickory also grow here.

The northwestern section of the parcel has some large, 30 inch in diameter black oaks. The understory includes holly trees, spicebush and arrowwood viburnum shrubs and greenbriar and black berry vines. Snakeroot wildflowers grow in the ground layer.

The southwest quadrant is a mixed deciduous stand with medium-sized sugar maple, black birch, black oak, red maple, ash and shagbark hickories, none of which are dominant.

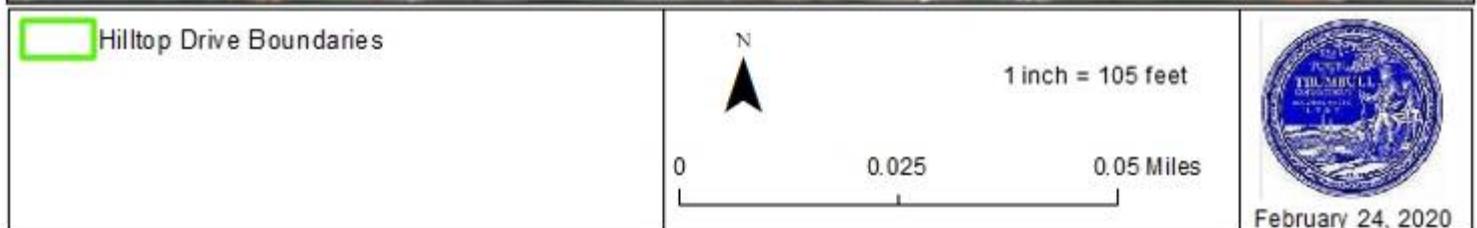
# Hilltop Drive Location Map



# Hilltop Drive Satellite Photograph Map



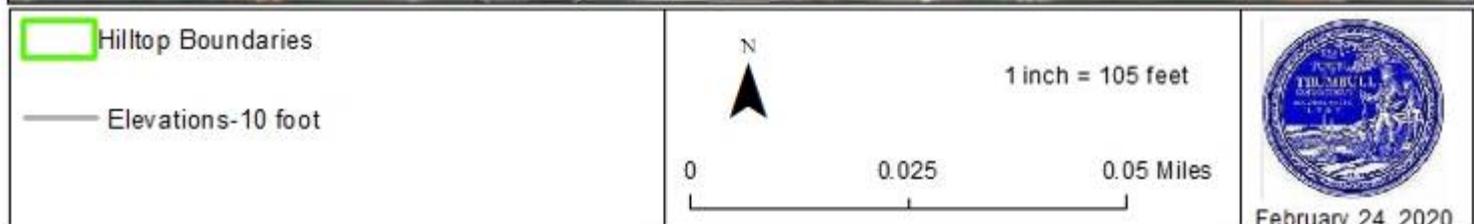
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# Hilltop Elevations Map



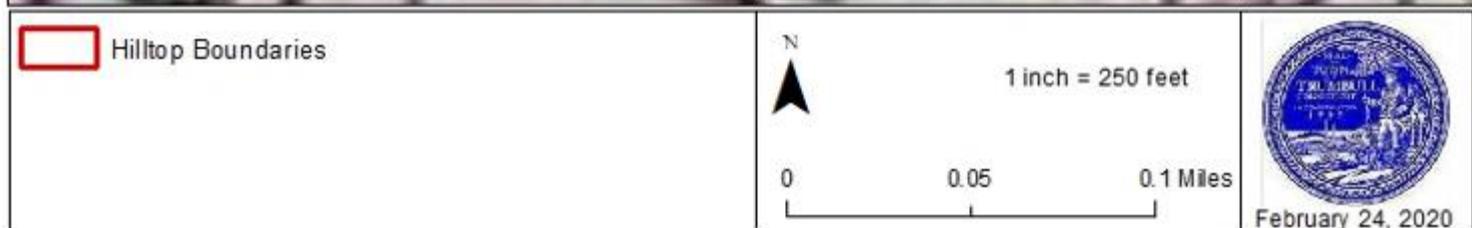
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



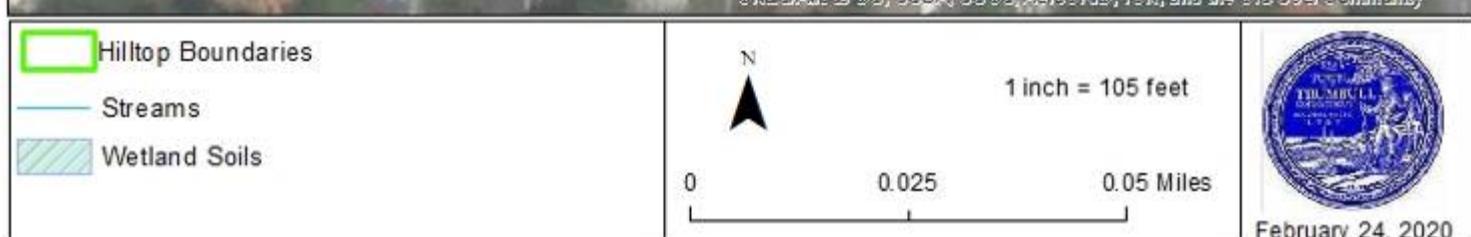
# Hilltop Topographic Map



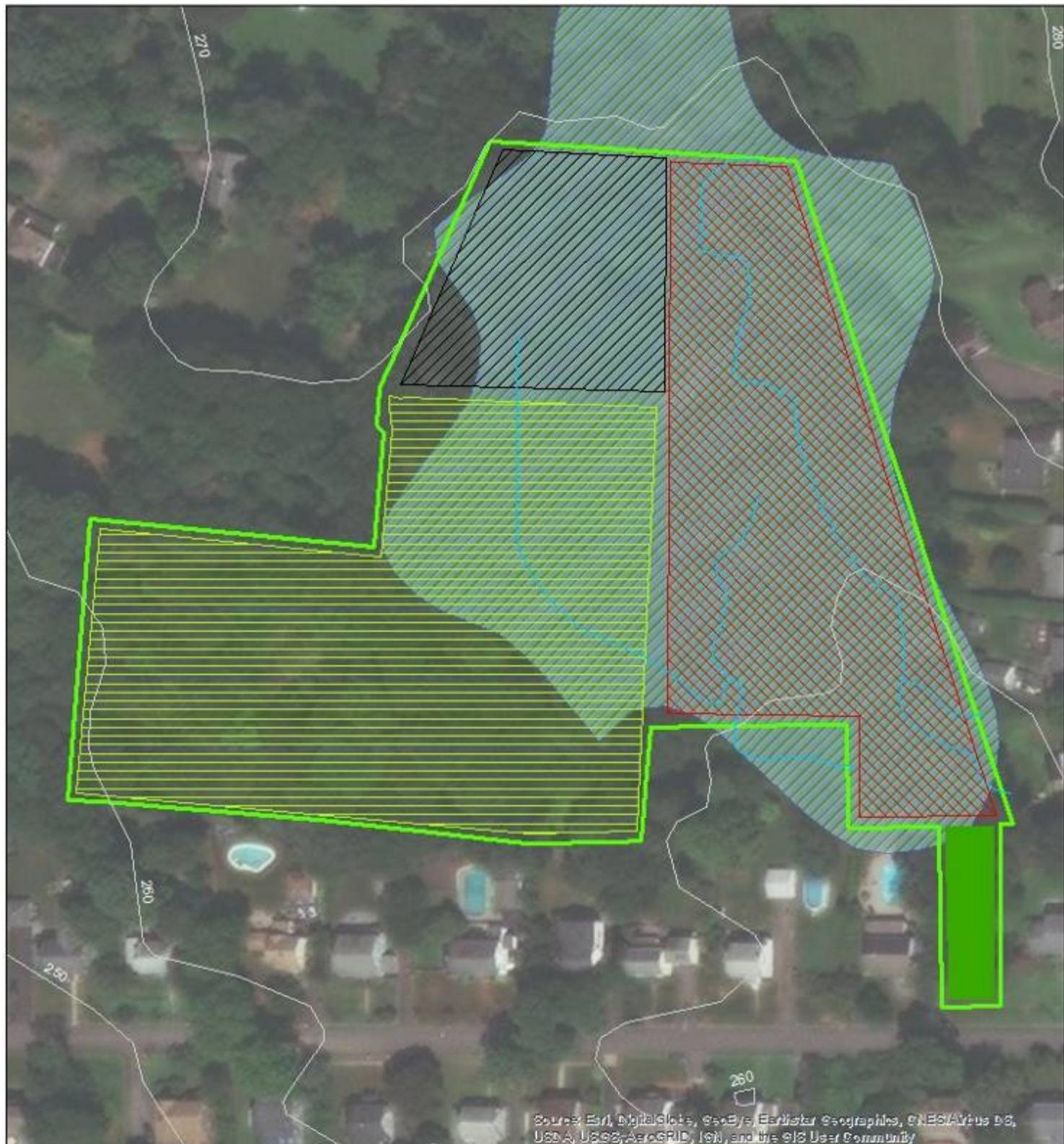
Copyright © 2013 National Geographic Society. Published



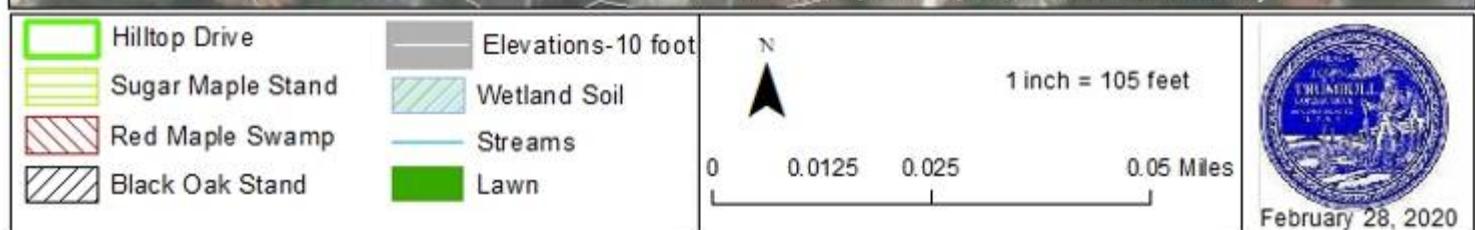
# Hilltop Streams & Wetland Soils Map



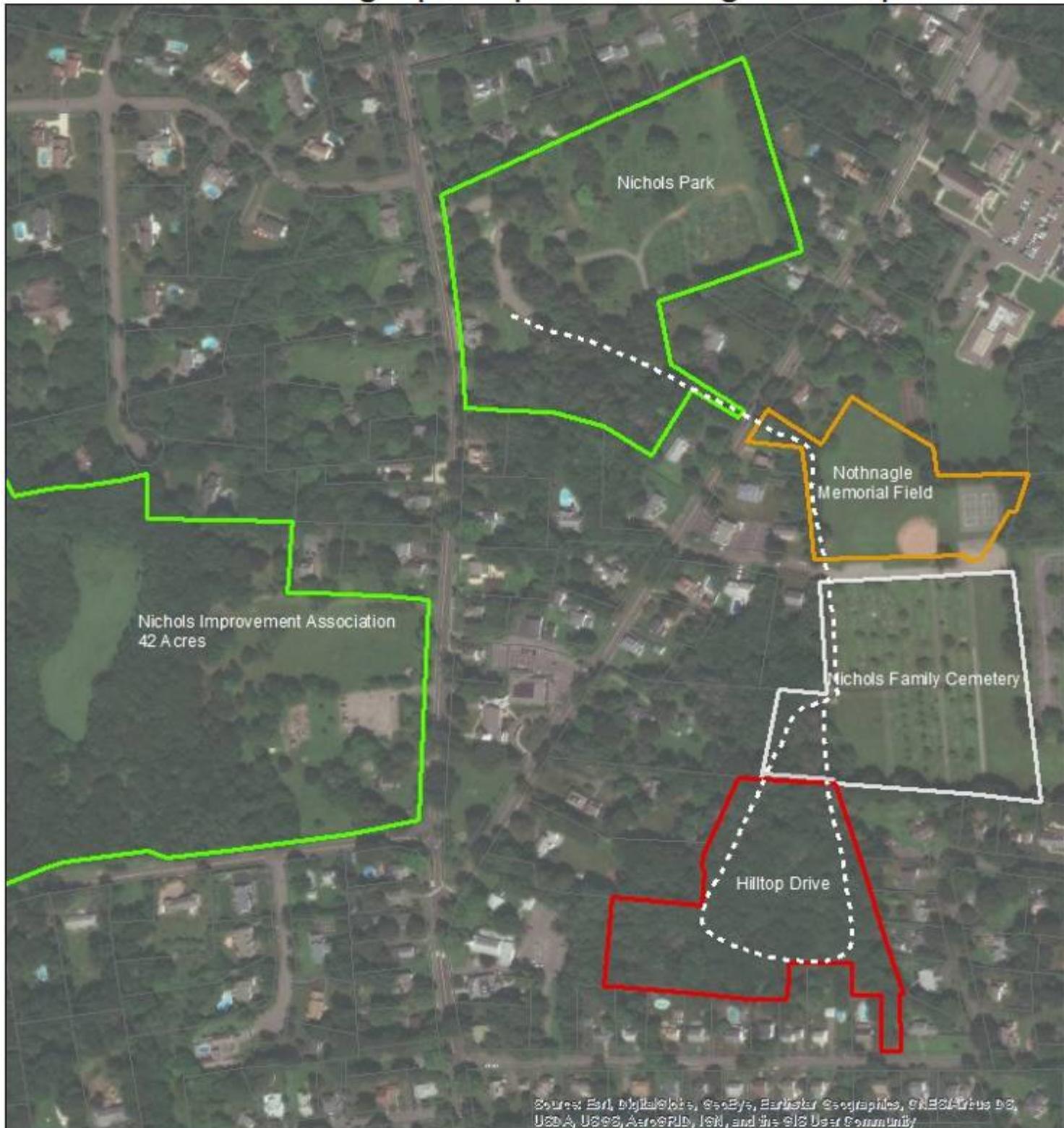
# Hilltop Drive Ecological Communities Map



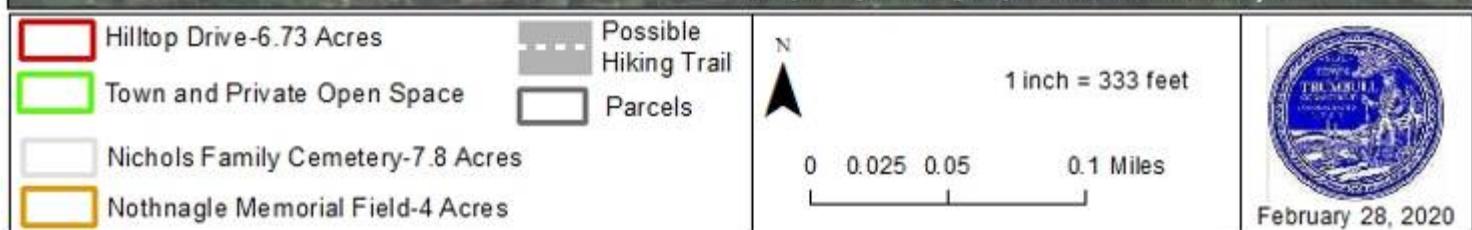
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, USGS, AeroGRID, IGN, and the GIS User Community



# Hilltop Drive Surrounding Open Space & Hiking Trail Map



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the USGS Open Data



THREATS:

- Invasive burning bush, Japanese knotweed, ailanthus, yews, English ivy and Norway maples from cemetery are spreading to this parcel

RECOMMENDATIONS:

- Monitor/remove invasive plants if spreading
- Trails-create loop trail within parcel and connect to Nichols Park with permission from Nichols Family Cemetery

PLANT INVENTORY November 6, 2019 field survey (a greater variety of plants would be found during the growing season)

**Trees:**

*Acer platanoides* (Norway maple)  
*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Ailanthus altissima* (tree of heaven)  
*Betula lenta* (black birch)  
*Carya ovata* (shagbark hickory)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Ilex opaca* (American holly)  
*Nyssa sylvatica* (tupelo)  
*Prunus serotina* (black cherry)  
*Quercus velutina* (black oak)  
*Ulmus americana* (American elm)

**Shrubs:**

*Berberis thunbergii* (Japanese barberry)  
*Buxus sempervirens* (English boxwood)  
*Euonymus alatus* (winged euonymus)  
*Lindera benzoin* (spicebush)  
*Rubus* spp. (blackberry)  
*Taxus cuspidata* (Japanese yew)  
*Viburnum dentatum* (arrowwood viburnum)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Eupatorium rugosum* (*Ageratina altissima*) (white snakeroot)  
*Polygonum cuspidatum* (Japanese knotweed)

**Sedges & Rushes:**

*Carex stricta* (tussock sedge)

**Ferns and allies:**

*Onoclea sensibilis* (sensitive fern)

November 1, 2019 Field Survey

CONSERVATION VALUES include: Forests including mature interior forests, hemlock groves, hiking trails, wetlands and vernal pools, ponds, riparian zones, floodplain forests, streams and seeps, sections of Horse Tavern/Canoe Brook, shrubland, meadows and grasslands, greenways connecting to Great Oak Park, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

This town-owned 6 acre parcel lies just north of Great Oak Park in the northwest section of Trumbull (see Location Map page 488 and Surrounding Open Space Map page 493). Horse Tavern/Canoe Brook flows through the center of the parcel, continuing south through Great Oak Park before flowing into Canoe Brook Lake located 0.75 miles from the parcel (see Streams & Wetlands Map page 492 and Topographic Map page 491). The parcel buffers this stream as does Great Oak Park and serves to store stormwater from the surrounding residential development; single family homes lie to the north, east and west. There are no opportunities for trails given the standing water and small area.



View south and north of Horse Tavern/Canoe Brook as it passes beneath Old Village Lane

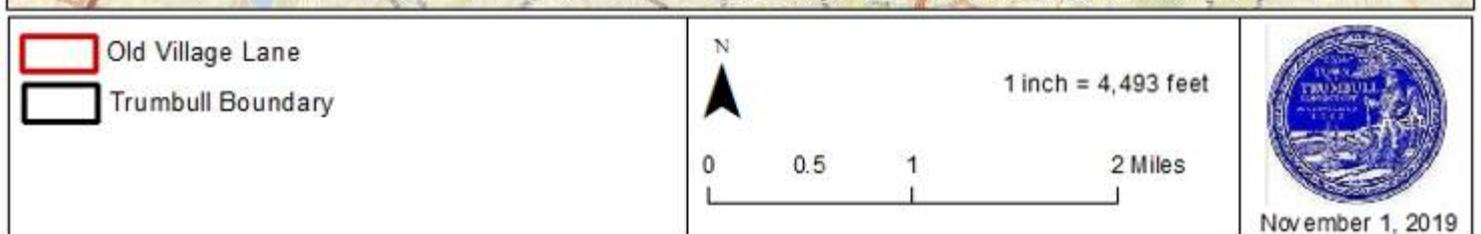
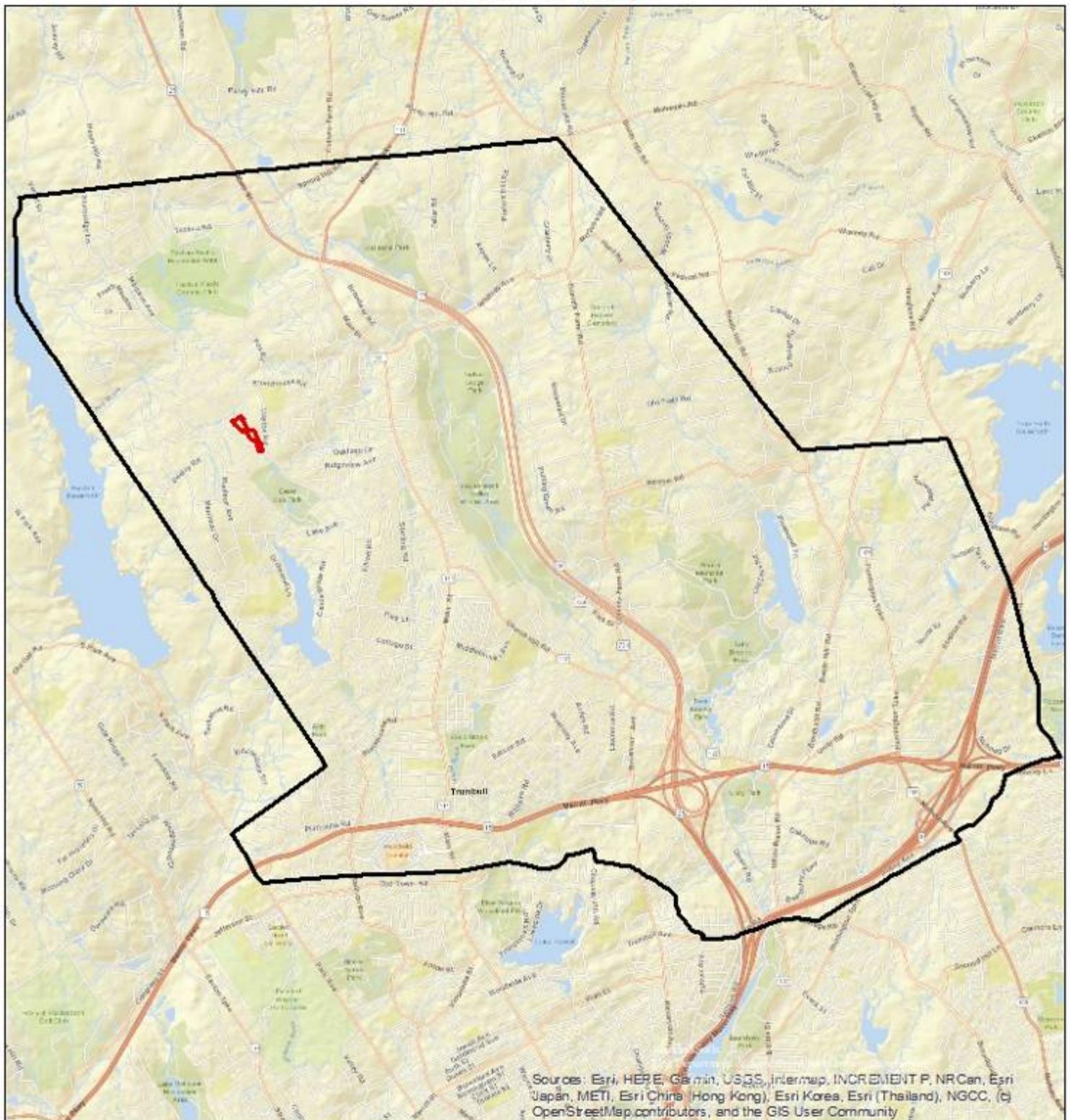
The property slopes from north to south with elevations of 440 feet above sea level in the northwestern section of the property down to 400 feet at the property's southern boundary (see Elevations Map page 490 and Topographic Map page 491). All but 2 acres of the parcel are wetland. Three small tributaries gather water from across the parcel and converge at the large culvert at the parcel's southern boundary.

The parcel is completely wooded with a closed canopy consisting of red maple, tulip, yellow birch, shagbark hickory, tupelo and elm trees-typical of a wetland forest (see Satellite Photograph Map page 489). Shrubs include spicebush, winterberry and high bush blueberry while skunk cabbage, New York and Christmas ferns grow in the ground layer. Beech trees grow in the higher, drier slopes at the parcel's eastern and western boundaries (see Ecological Communities Map page 494 and Plant Inventory page 496).

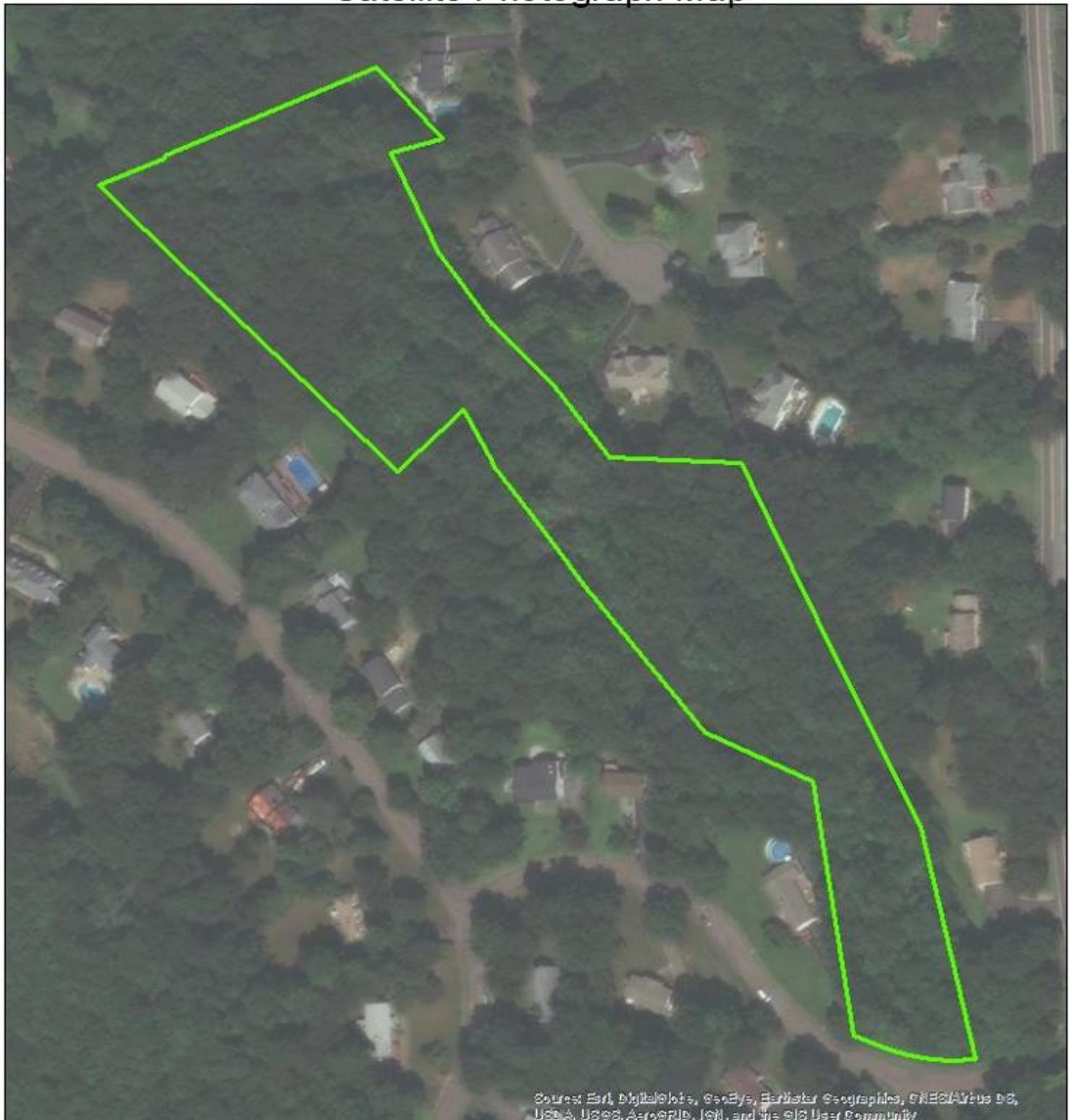


Beeches growing along the stream bank

# Old Village Lane Location Map



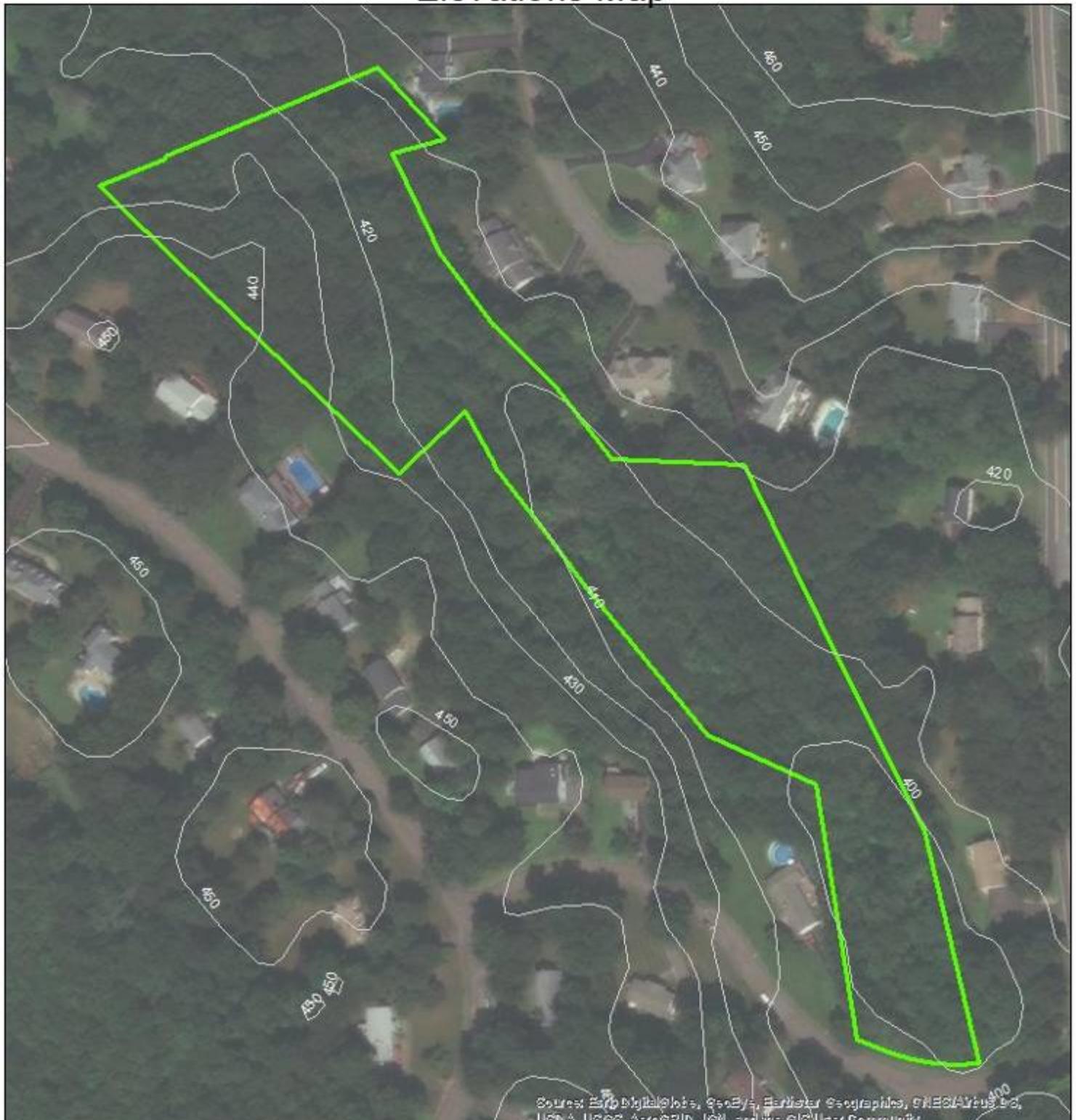
# Old Village Lane Satellite Photograph Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

 Old Village Lane Boundaries-6 acres	 1 inch = 159 feet 0 75 150 300 Feet	 November 1, 2019
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# Old Village Lane Elevations Map



# Old Village Lane Topographic Map



# Old Village Lane Streams & Wetland Soils Map



## Old Village Lane Surrounding Open Space Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, Aerial3D, IGN, and the USGS Open Data

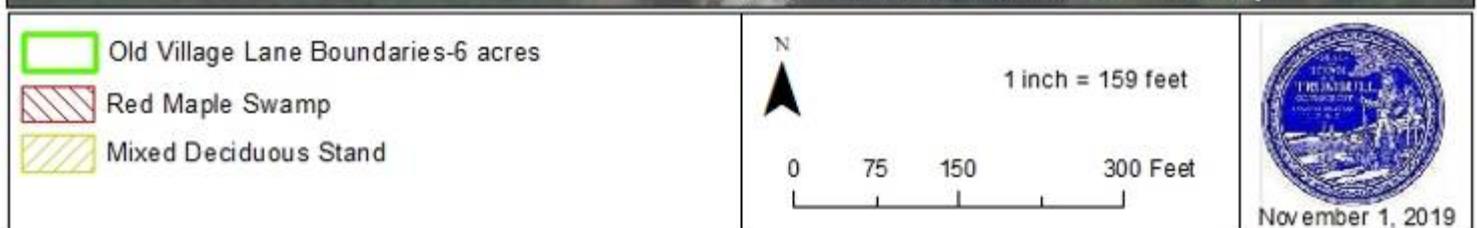
<p>Old Village Lane Boundaries-6 acres</p> <p>Great Oak Park</p> <p>Horse Tavern Brook</p>	<p>N</p> <p>0 0.05 0.1 0.2 Miles</p>	<p>1 inch = 463 feet</p> <p>November 1, 2019</p>
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# Old Village Lane Ecological Communities Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



THREATS:

- Water/stormwater pollution flowing into Horse Tavern/Canoe Brook and Canoe Brook Lake
- Flooding-property is in FEMA flood plain
- Litter-Park is well maintained now and litter-free

RECOMMENDATIONS:

- Monitor water quality
- Continue to clean up trash

PLANT INVENTORY, November 1, 2019 Field Survey

**Trees:**

*Acer rubrum* (red maple)  
*Amelanchier arborea* (serviceberry)  
*Betula alleghaniensis* (yellow birch)  
*Carya ovata* (shagbark hickory)  
*Fagus grandifolia* (American beech)  
*Liriodendron tulipifera* (tulip tree)  
*Ulmus americana* (American elm)

**Shrubs:**

*Ilex verticillata* (winterberry)  
*Lindera benzoin* (spicebush)  
*Vaccinium corymbosum* (high-bush blueberry)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Arisaema triphyllum* (Jack-in-the-pulpit)  
*Impatiens capensis* (orange jewelweed)  
*Symplocarpus foetidus* (skunk cabbage)

**Ferns and allies:**

*Polystichum acrostichoides* (Christmas fern)  
*Thelypteris noveboracensis* (New York fern)

## CHERNAK NATURE PRESERVE

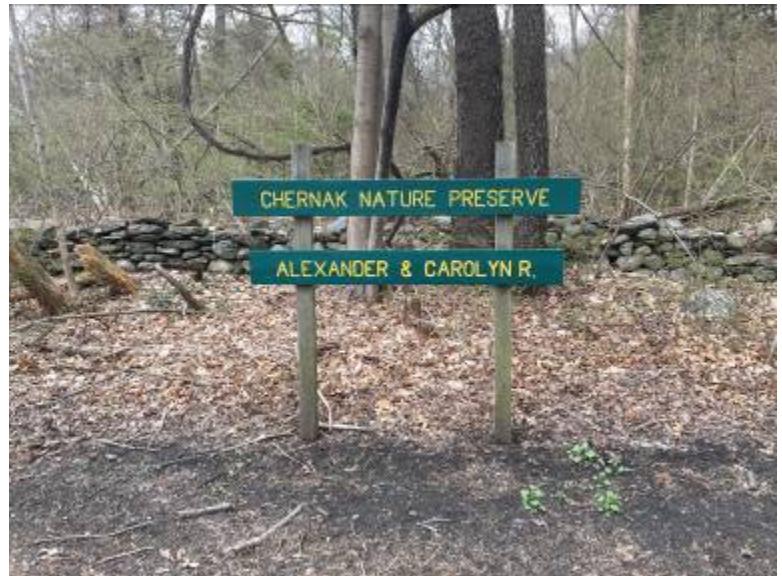
April 10 2020 Field Survey

**CONSERVATION VALUES** include: Forest with large trees, some 24 inches in diameter, evergreen trees, shrub land, historic foundation, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

### PROPERTY DESCRIPTION:

This 5.2 acre parcel is located close to the Trumbull/Shelton border in northern Trumbull (see Location Map page 5). It was transferred to the Town of Trumbull in 2006. The parcel is accessible via Porters Hill Road but the entrance is overgrown with dense invasive shrubs including multi-flora rose, barberry, wineberry, burning bush and jetbead and is currently impassable. A trail could be cleared which would allow the public to walk the Preserve.

Just beyond the shrubs is an open area of lawn on the Preserve that is cut by the neighbors without permission; it should be allowed to re-grow naturally.



Preserve entrance along Porters Hill Road



Lawn cleared on Preserve without permission

The eastern half of the parcel is flat while the western half is sloped with elevations of 530 feet above sea level in the center of the Preserve dropping to 490 feet at the western boundary (see Elevations Map page 7 and Topographic Map page 8). Stonewalls separate the flatter eastern portion of the Preserve from the steeper western portion. The stone walls, an old foundation and the younger age of trees in the eastern portion indicate that the flat area was most recently farmland.



Younger trees on level area that was recently farmed



Old foundation

The property is entirely wooded except for a one-quarter acre piece that is maintained-without permission--by the neighbors as lawn (see Satellite Photograph Map page 6, Ecological Communities Map page 10, Incursion by Neighbors Map page xxxx). The Preserve is very dry and the nearest wetlands and streams are over 300 feet away to the east and west (see Streams & Wetland Soils Map page 9). The property is surrounded by dense single-family housing on all sides and is not near any other open space; the town-owned Topaz Lane parcels are one-tenth of a mile to the west (sees Surrounding Open Space Map page 11).

The slightly higher and drier eastern half of the property has medium sized red maple, black oak, black cherry and black birch with many dead red cedars-an indication that this was open farmland until recently since red cedar can only grow in sunlit areas and are frequently the first trees to re-colonize abandon fields. Trees are noticeable larger west of the stone wall that separates the flat sections of the Preserve from the more sloped areas to the west. Black oaks are 24 inches in diameter and grow along with black birch, red maple and a few hemlocks. The shrub layer is sparse except for a patch of low bush blueberries, a single holly shrub and some sassafras saplings. Pennsylvania sedge grows in the ground layer. A grove of conifers grow in the Preserve's southeastern section includes white pine along with a few Norway spruce and red cedars.



This Preserve can support a short hiking trail for use by neighbors if the access from Porters Hill Road is cleared and a trail maintained.

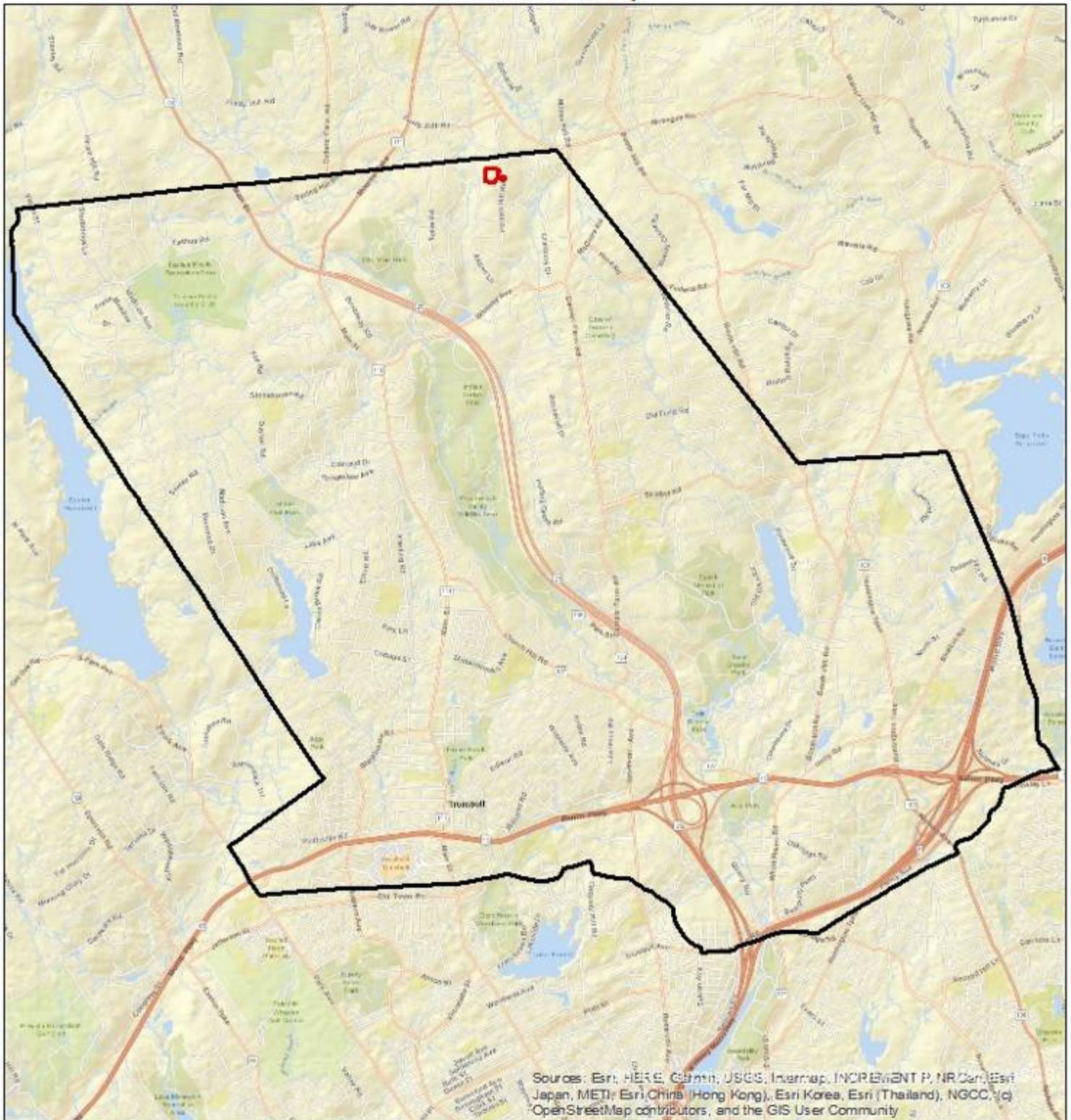
Older trees on western slope

## CHERNAK NATURE PRESERVE

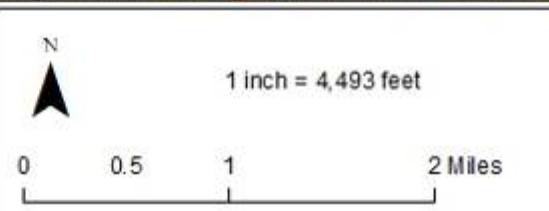
Chernak Nature Preserve has the following ecological communities (see Ecological Communities Map page 10):

Red Maple-Red Cedar Stand	3.0 acres
Oak-Hickory Stand	1.1 acres
Conifer Grove	0.5 acres
Shrubland	0.35 acres
Lawn	<u>0.25 acres</u>
	5.2 acres

# Chernak Nature Preserve Location Map



Sources: Esri, HERE, GEBCO, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



April 7, 2020

# Chernak Nature Preserve Satellite Photograph Map



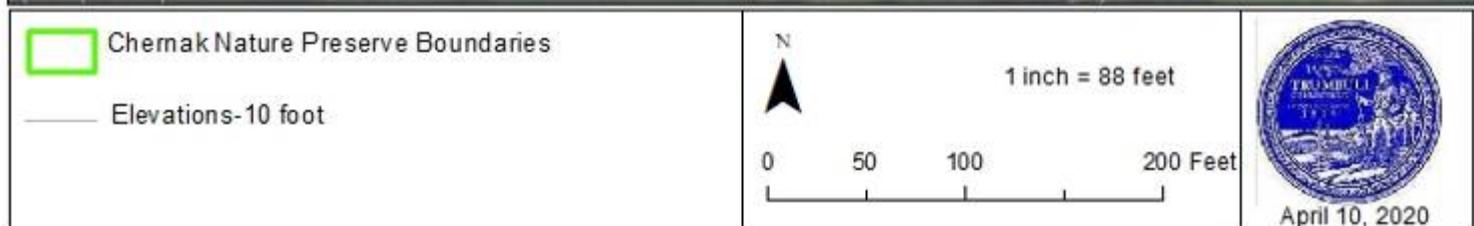
Satellite Imagery © 2019 Esri, Mapbox © 2019 Esri, Esri, HERE, and the Esri User Community

 Chernak Nature Preserve Boundaries	 N 1 inch = 88 feet 0 50 100 200 Feet	 April 10, 2020
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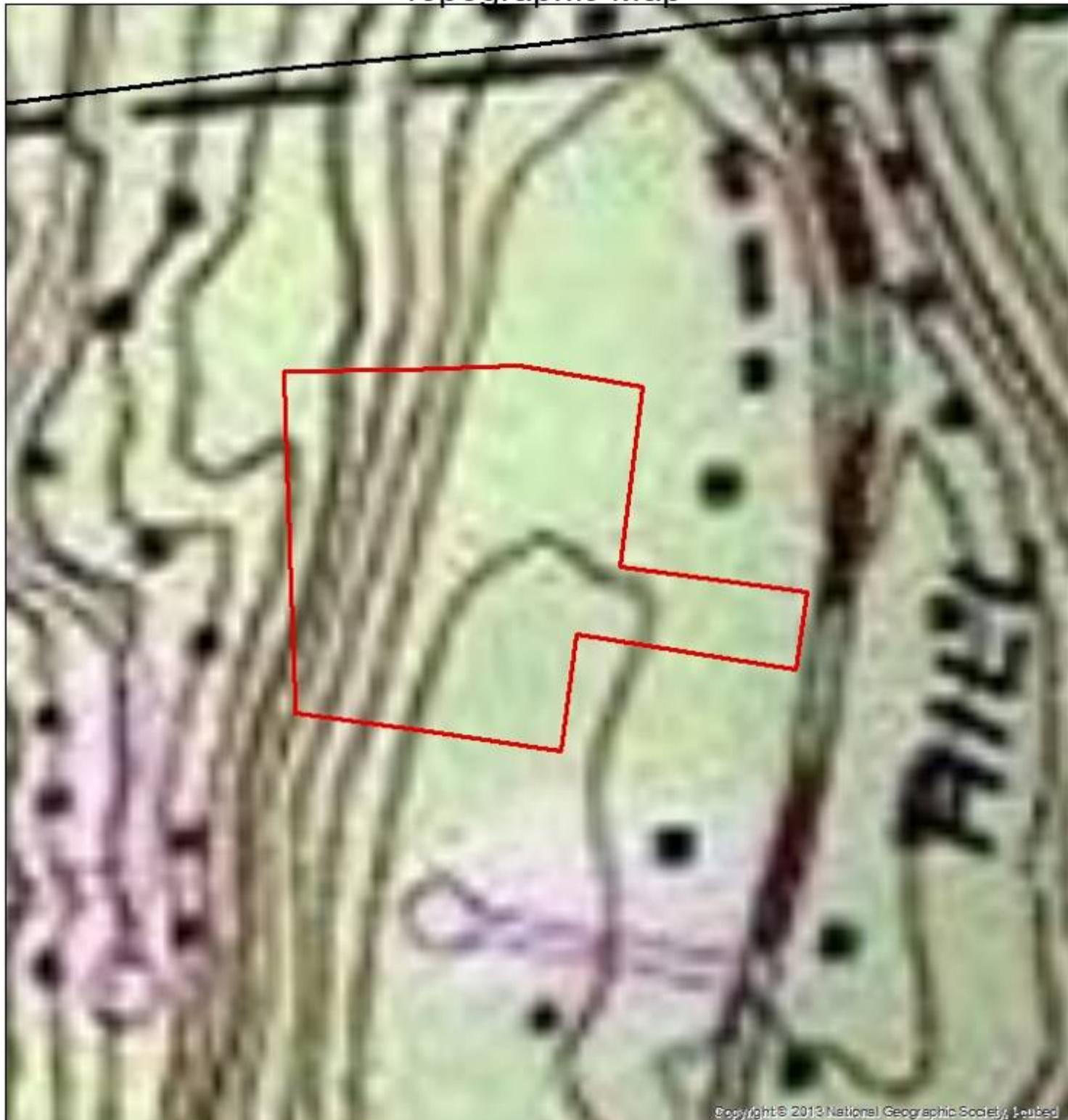
# Chernak Nature Preserve Elevations Map



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

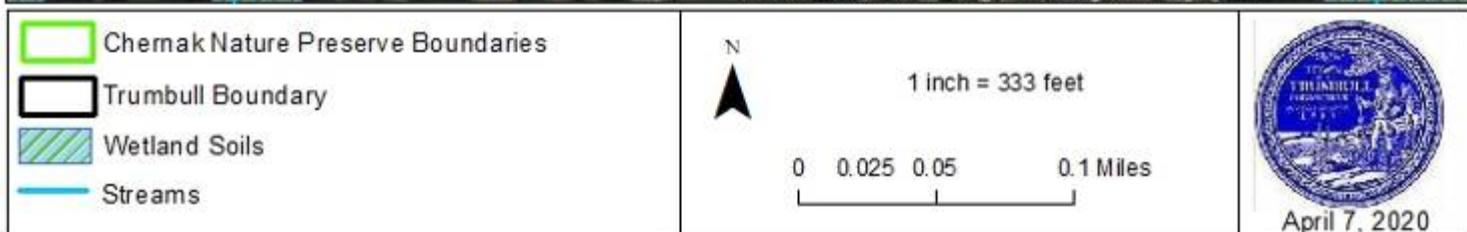
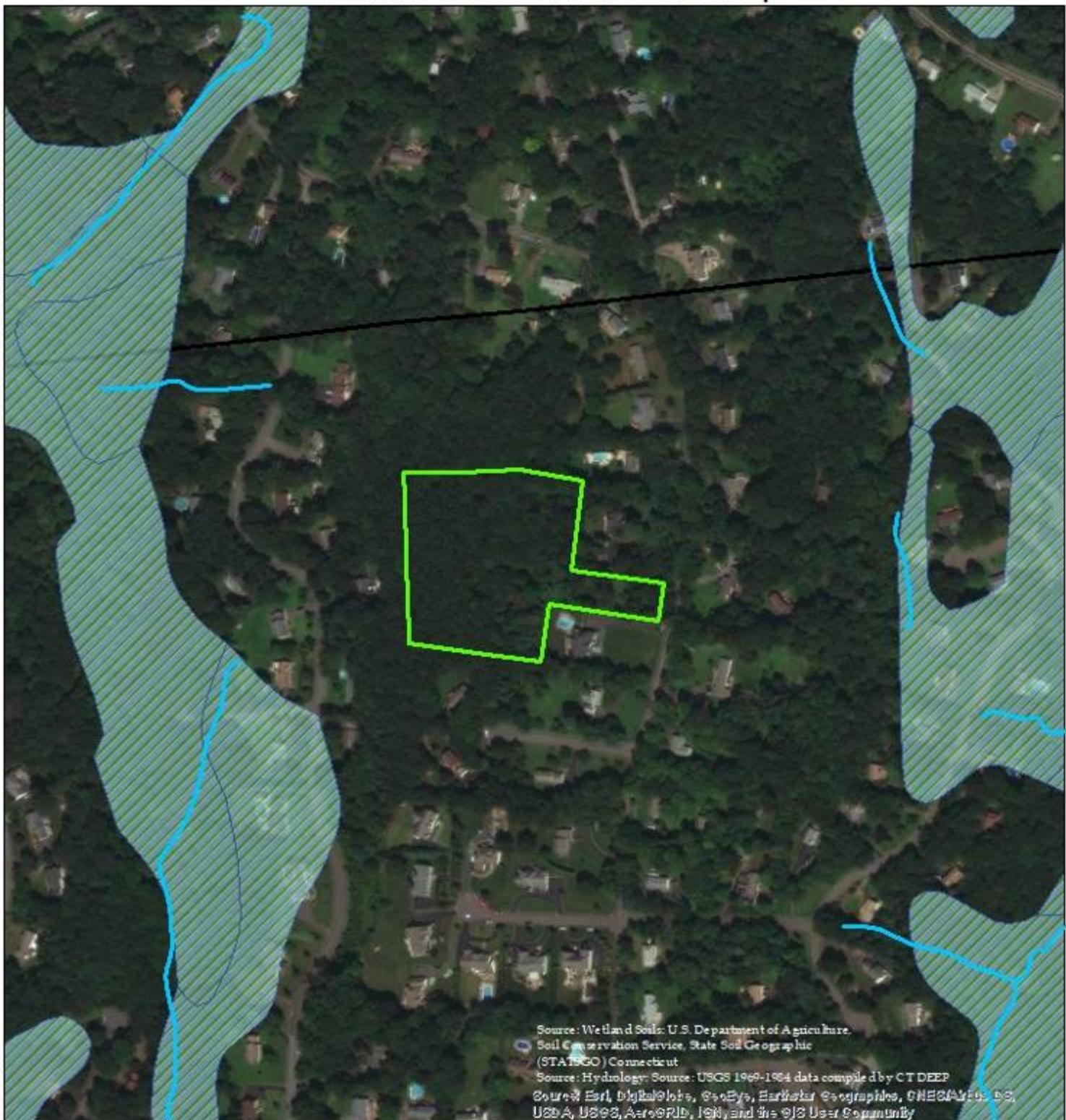


# Chernak Nature Preserve Topographic Map

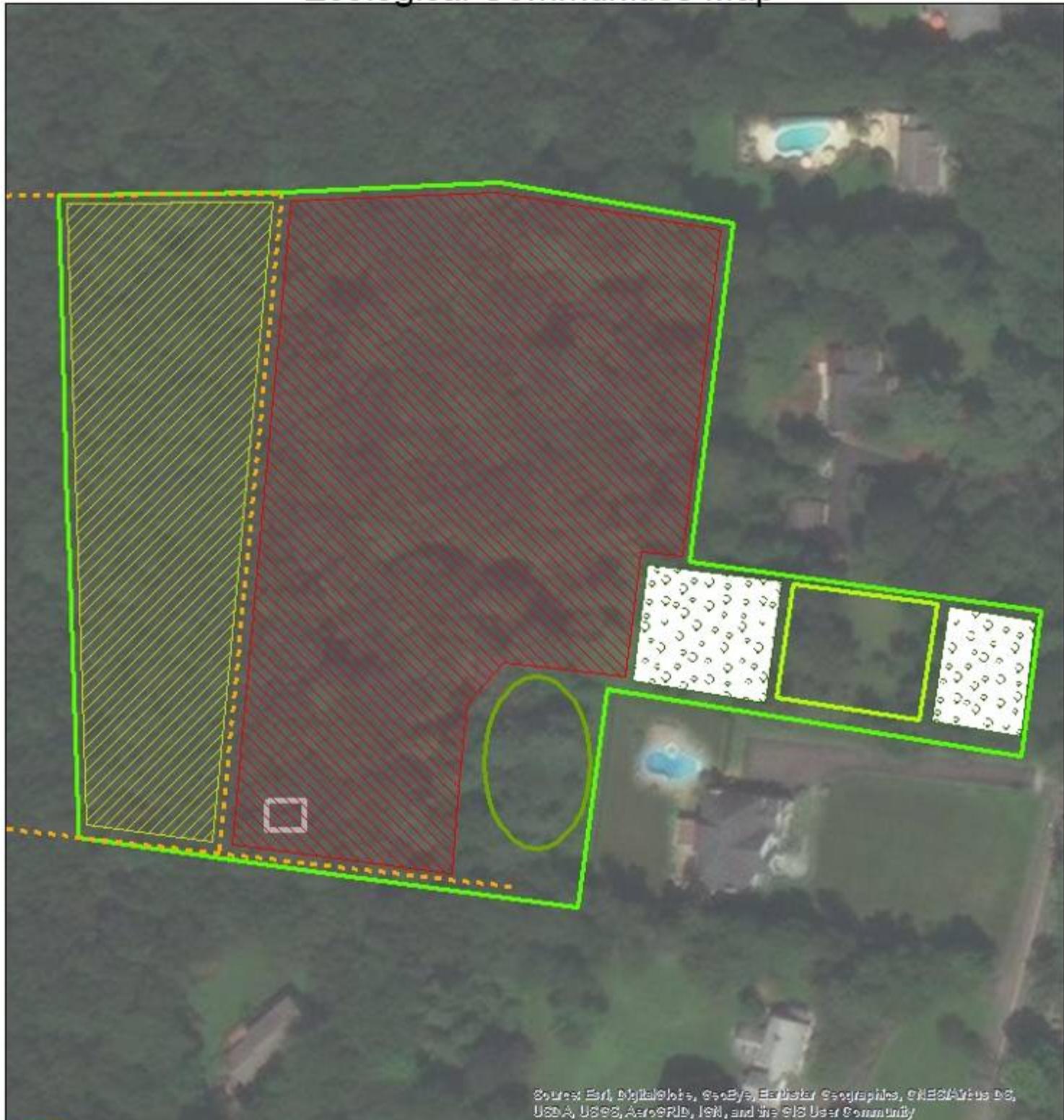


<p> Chernak Nature Preserve Boundaries</p> <p> Trumbull Boundaries</p>	<p>N</p>  <p>1 inch = 167 feet</p> <p>0 100 200 400 Feet</p>	 <p>April 10, 2020</p>
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# Chernak Nature Preserve Streams & Wetland Soils Map



# Chernak Nature Preserve Ecological Communities Map



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Chernak Nature Preserve Boundaries	Old Foundation
Red Maple-Red Cedar Stand	Stone Walls
Oak-Hickory Stand	Lawn cleared by neighbors without permission
Invasive Shrubs	
Conifer Grove	



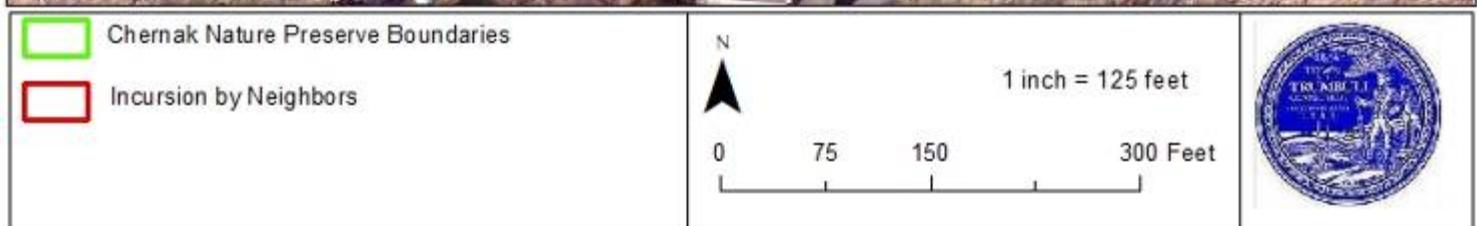
1 inch = 88 feet

0 25 50 100 Feet

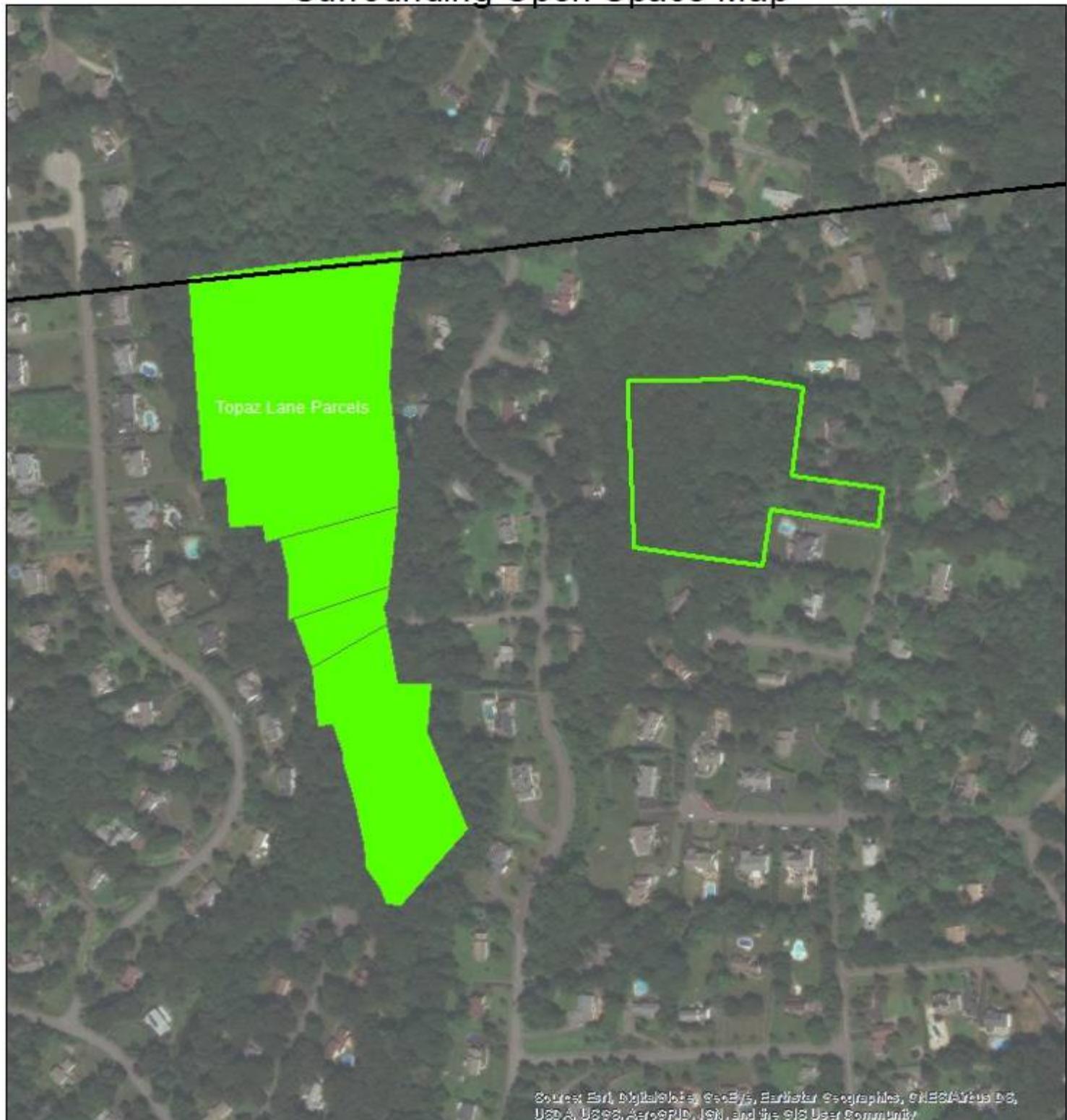


April 10, 2020

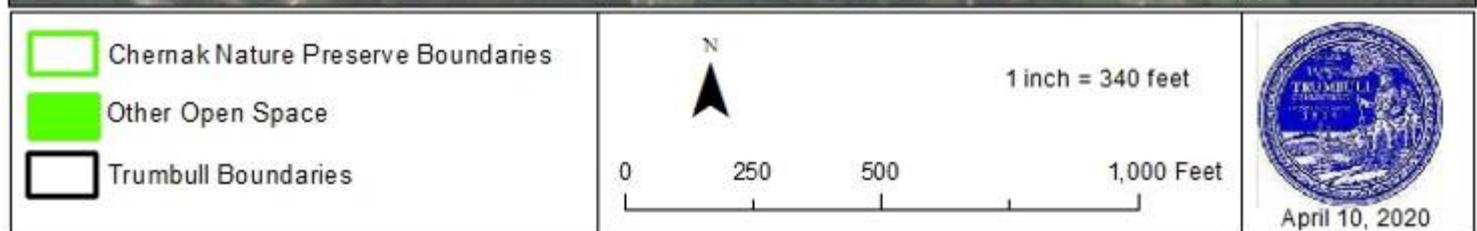
# Chernak Nature Preserve Incursion by Neighbors Map



# Chemak Nature Preserve Surrounding Open Space Map



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



THREATS:

- Clearing by neighbors on Preserve property
- Invasive plants obscure entrance
- Litter-Park is well maintained now and litter-free

RECOMMENDATIONS:

- Post boundaries to discourage neighbors from continuing to clear town property
- Allow lawn area now mowed by neighbors to revegetate
- Remove invasive plants obscuring entrance
- Trails-clear entrance to allow hikers to enter Preserve
- Create loop trail in interior of Preserve
- Continue to clean up trash

PLANT INVENTORY April 10, 2020 Field Survey (more species would be observed during the growing seasons):

**Trees:**

*Acer rubrum* (red maple)  
*Betula lenta* (black birch)  
*Juniperus virginiana* (red cedar)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Picea abies* (Norway spruce)  
*Pinus strobus* (white pine)  
*Prunus serotina* (black cherry)  
*Sassafras albidum* (sassafras)  
*Tsuga canadensis* (eastern hemlock)

**Shrubs:**

*Berberis thunbergii* (Japanese barberry)  
*Euonymus alatus* (winged euonymus)  
*Rhodotypos scandens* (jetbead)  
*Rosa multiflora* (multiflora rose)  
*Rubus phoenicolasius* (wineberry)  
*Vaccinium angustifolium* (low-bush blueberry)

**Sedges & Rushes:**

*Carex pensylvanica* (Pennsylvania sedge)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis sp.* (grape)

## TAIT ROAD

April 10, 2019 Field Survey

**CONSERVATION VALUES** include: Forests including mature interior forests with very large trees, some five feet in diameter, hemlock groves, native spring ephemeral wildflowers, hiking trails, portions of Pequonnock River Rail Trail, wetlands and vernal pools, riparian zones, floodplain forests, streams and seeps, sections of the Pequonnock River, greenways connecting to Pequonnock River Valley Park, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

### PROPERTY DESCRIPTION:

This town-owned parcel is 4.9 acres in size and is located in the south-central part of Trumbull (see Location Map page 515). The parcel abuts the Pequonnock River along the east boundary; the Pequonnock River Trail and Tait Road along the west boundary and the Pequonnock River Valley Park along the north boundary (see Surrounding Open Space Map page 521). Single family homes border the parcel to the south and have infringed upon approximately 0.5 acres of the parcel by maintaining this town owned property as lawn, apparently without permission from the owner, Town of Trumbull (see Neighbor Incursion Map page 520).

The parcel is accessible via the River Trail and also by Norwood Terrace. There is ample on-street parking along Norwood Terrace.

The parcel is entirely wooded except for the lawn area and slopes west to east from 160 feet above sea level at Tait Road to 130 feet at the wetlands around the Pequonnock River (see Satellite Photograph Map page 516, Elevation Map page 517 and Topographic Map page 518).



View north of Pequonnock Rail Trail from parcel's south boundary



View north of Norwood Terrace from parcel's southwest boundary

A tributary flows beneath Tait Road and into the wetland at then the River to the east (see Streams & Wetland Soils Map page 519). The stream bank is severely eroded as it passes the end of Tait Road (see photograph to right).

A secondary trail runs across the parcel's northern boundary from the Rail Trail to the River, intersecting with another trail that runs alongside the River (see Ecological Communities Map page 522).

The higher and drier western half of the parcel is wooded with large tulip and red oak trees, some 30 inches in diameter. Understory trees include medium sized sugar maple, white oak and ashes. Shrubs include invasive burning bush, which grows all along the River Trail, and native spice bush.

The lower and wetter eastern half of the parcel has wetland soils and very large, four foot in diameter tulip trees. One enormous double trunked tulip tree measures five feet in diameter. Understory trees include black birch, bitternut hickory, ironwood and hemlock trees. The shrub layer consists of spicebush and witch hazel.



Stream bank erosion along tributary at parcel's southwest boundary



Enormous tulip trees along the Pequonnock River

The east-central portion of the parcel is impassable with streams, standing water, skunk cabbage, false hellebore and a large patch of invasive knotweed.



False hellebore in wetland by River

On April 10 of 2020, the ground layer was covered with native spring ephemeral wildflowers including bloodroot and trout lily.



Bloodroot alongside River Trail



Trout lily

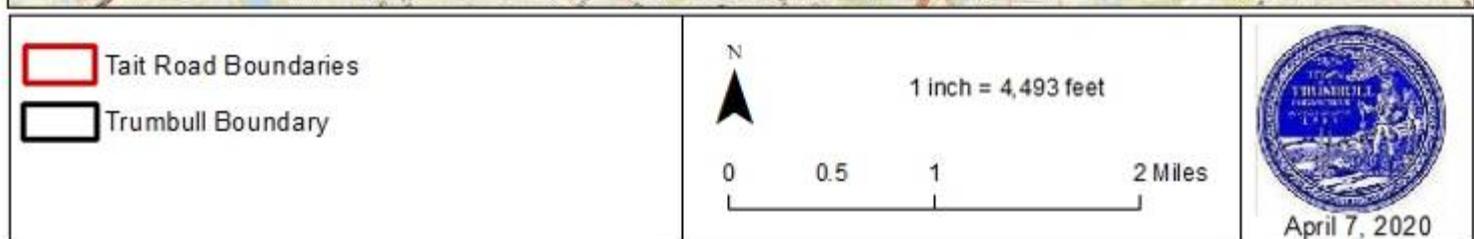
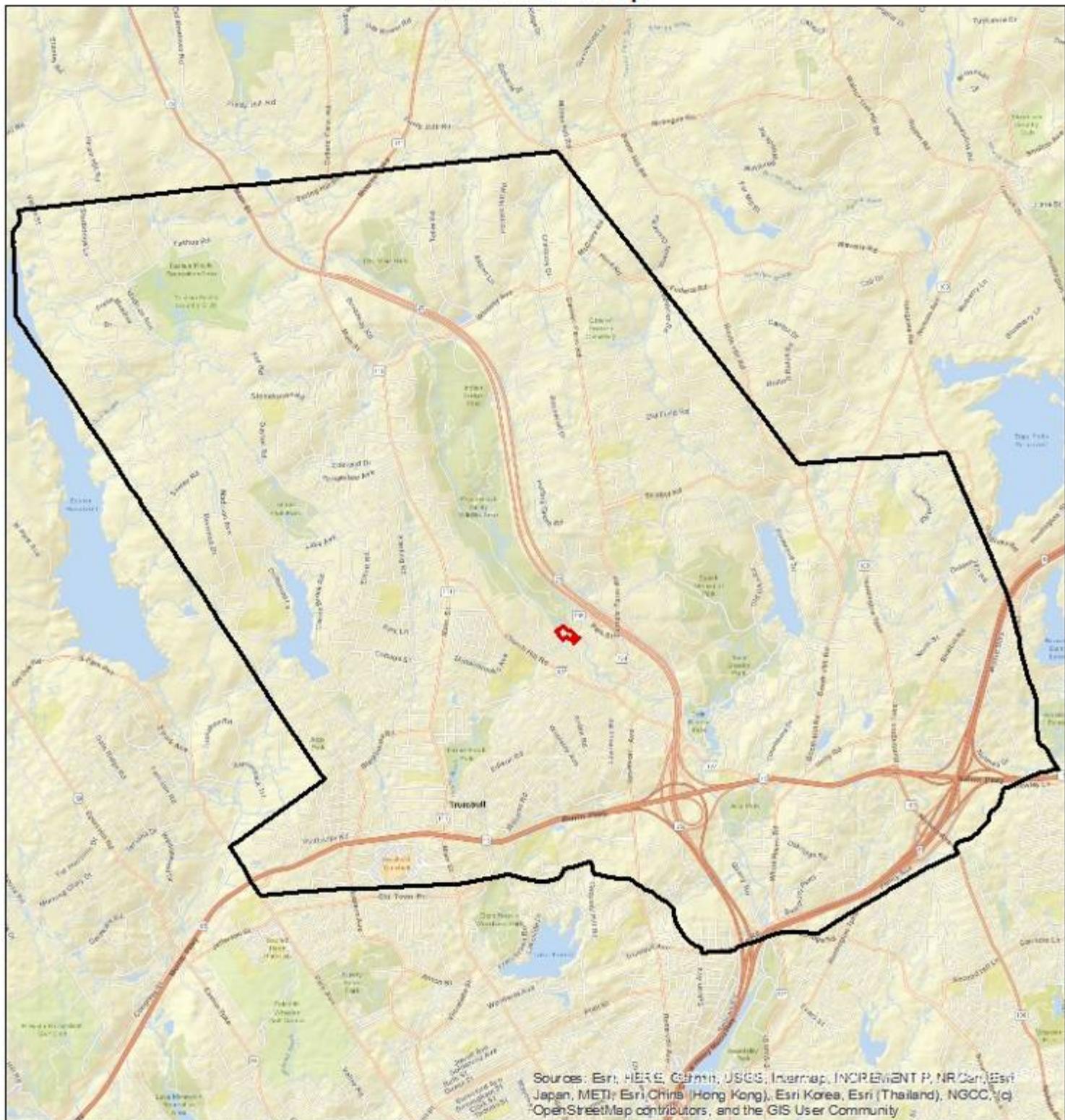
This small, 5-acre parcel serves valuable ecological functions including buffering the wetland and the River from pollutants including storm water, silt and erosion. The wooded parcel also cools and shades the River, making it habitable for fish and other wildlife that require cool water. The wooded parcel and its wetlands also provide habitat for plants and wildlife. The trails through the parcel are quite beautiful with majestic trees, wildflowers and views of the River.

#### ECOLOGICAL COMMUNITIES:

The Tait Road parcel has the following ecological communities (see Ecological Communities Map page 522 and Plant Inventory page 524):

Tulip-Oak Forest	2.5 acres
Tulip Wetland Forest	1.5 acres
Invasive Knotweed	0.5 acres
Lawn	<u>0.5 acres</u>
	5 acres

# Tait Road Location Map



# Tait Road Satellite Photograph Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Tait Road Boundaries

Pequonnock River



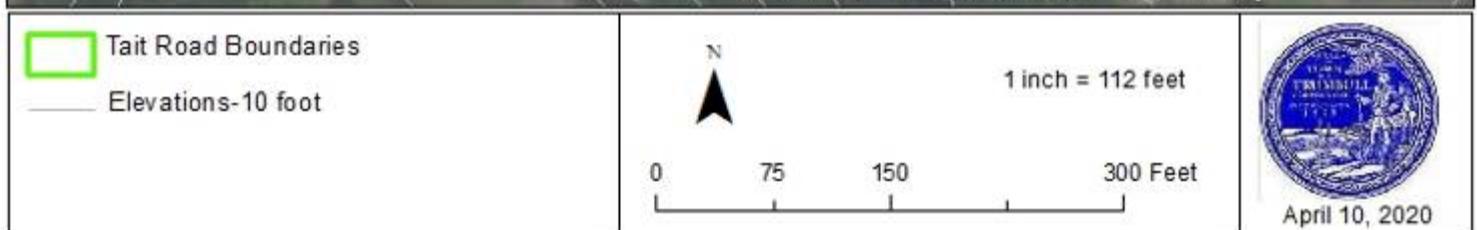
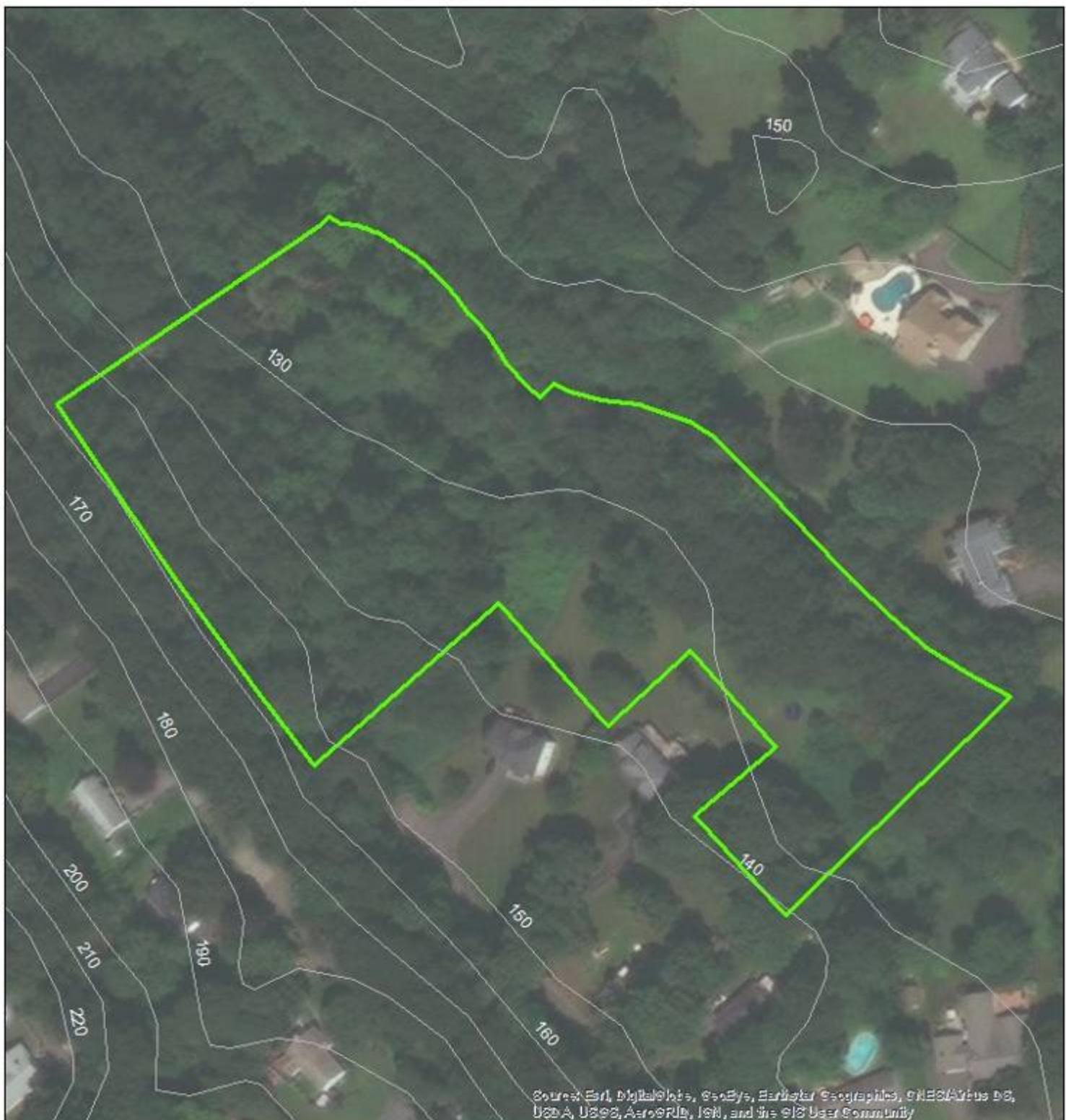
1 inch = 112 feet

0 50 100 200 Feet

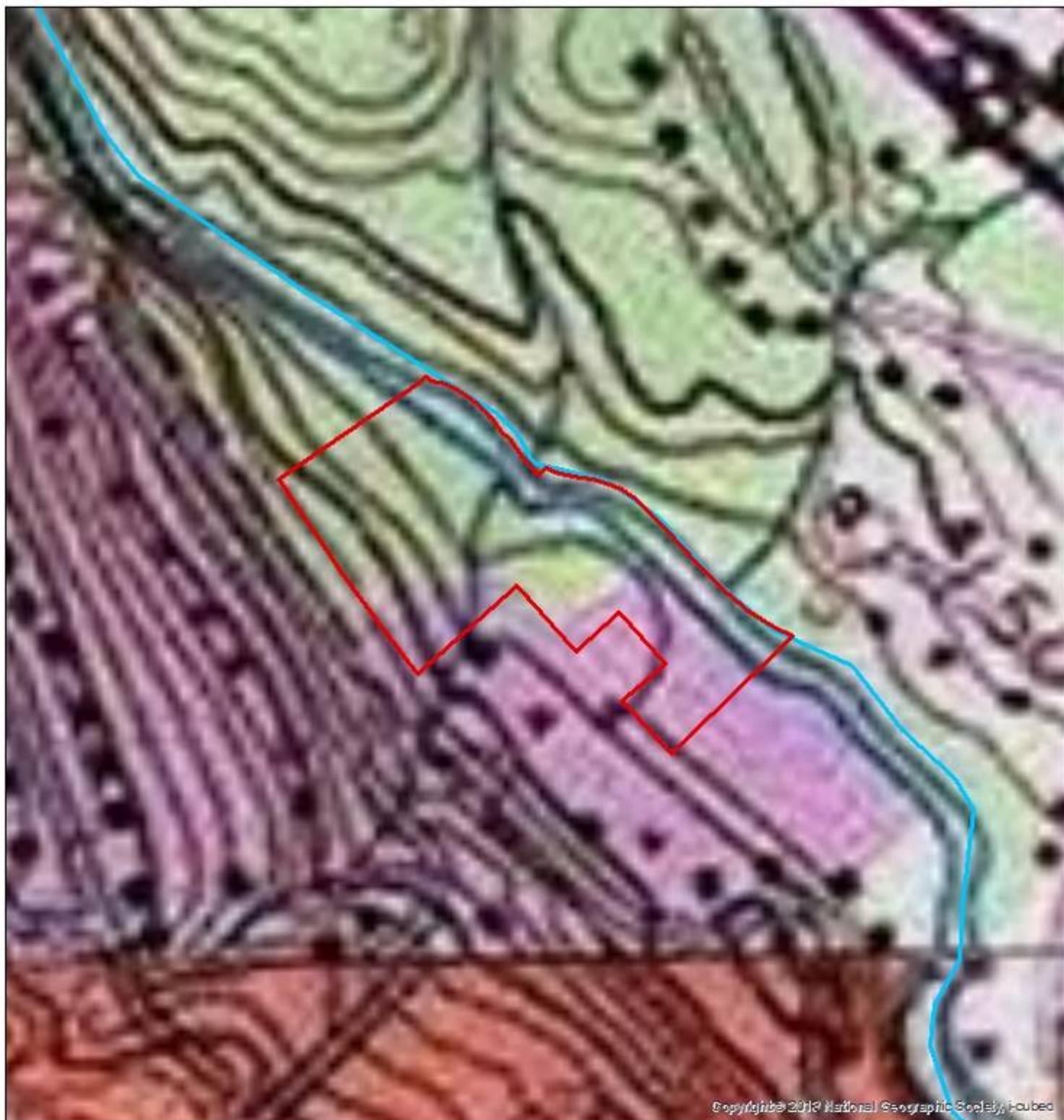


April 10, 2020

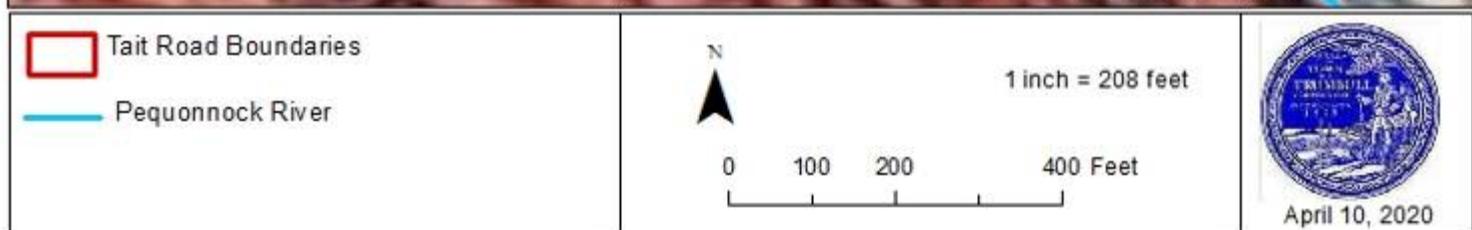
# Tait Road Elevations Map



# Tait Road Topographic Map



Copyright 2012 National Geographic Society, Inc.

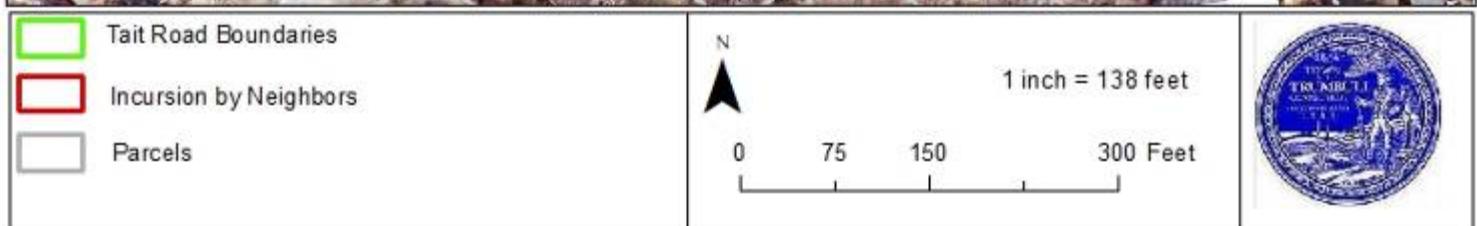


# Tait Road Streams & Wetland Soils Map

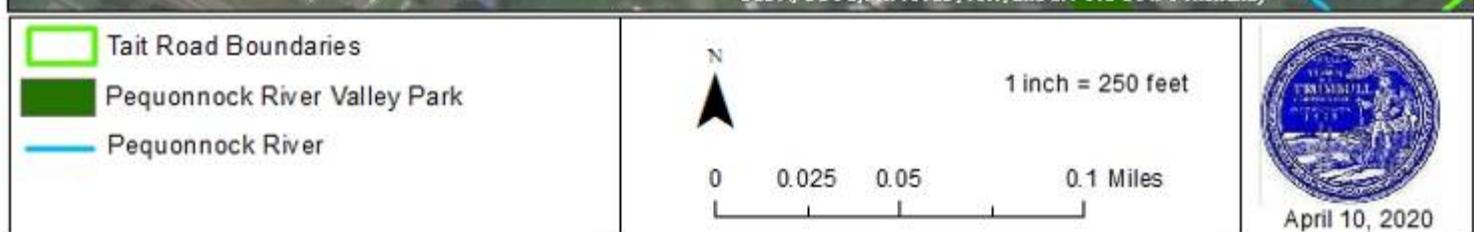


<ul style="list-style-type: none"><li>Tait Road Boundaries</li><li>Wetland Soils</li><li>Pequonnock River</li><li>Streams</li></ul>	<p>N</p> <p>1 inch = 112 feet</p> <p>0 50 100 200 Feet</p>	 <p>April 10, 2020</p>
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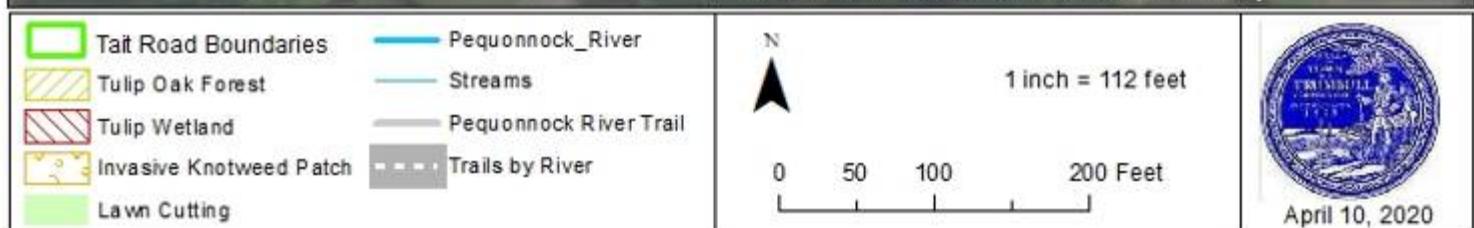
# Tait Road Incursion by Neighbors Map



# Tait Road Surrounding Open Space Map



# Tait Road Ecological Communities Map



## THREATS:

- Water/stormwater pollution from poor culvert design adding pollutants to Pequonnock River
- Water pollution due to clearing by neighbors of lawn on town property adding pollutants to Pequonnock River
- Invasive Japanese knotweed stand, invasive burning bush
- Flooding
- Diseases/woolly adelgid killing hemlock trees
- Lack of Land Regulation/Enforcement
- Litter-Park is well maintained now and litter-free
- Climate change increasing flooding

## RECOMMENDATIONS:

- Post boundaries to prevent incursions by neighbors
- Allow area now mowed by neighbor without permission to regrow either naturally or by replanting with native plants to protect the Pequonnock River streambank and the River's water quality
- Stormwater improvements to control stormwater erosion and pollution at culverts beneath River Trail at end of Tait Road
- Streambank restoration
- Monitor water quality
- Monitor/treat hemlocks
- Monitor/remove invasive Japanese knotweed and burning bush if spreading
- Regulation/Enforcement/Training
- Continue to clean up trash

PLANT INVENTORY, April 10, 2020 Field Survey (more species would be observed during the growing seasons):

**Trees:**

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carpinus caroliniana* (ironwood)  
*Carya cordiformis* (bitternut hickory)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Liriodendron tulipifera* (tulip tree)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Tsuga canadensis* (eastern hemlock)

**Shrubs:**

*Euonymus alatus* (winged euonymus)  
*Hamamelis virginiana* (witch hazel)  
*Lindera benzoin* (spicebush)  
knotweed

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Erythronium americanum* (trout lily)  
*Fallopia japonica* (Japanese knotweed)  
*Impatiens capensis* (orange jewelweed)  
*Sanguinaria canadensis* (bloodroot)  
*Symplocarpus foetidus* (skunk cabbage)  
*Varatrum viride* (false hellebore)  
*Poa pratensis* (Kentucky bluegrass)-in lawn area

**Ferns and allies:**

*Polystichum acrostichoides* (Christmas fern)

## DEER RUN DRIVE

April 10, 2019 Field Survey

**CONSERVATION VALUES** include: Forests, hemlock groves, wetlands and vernal pools, riparian zones, streams and seeps, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

### PROPERTY DESCRIPTION:

This parcel is 4.8 acres in size. The parcel is located directly alongside Route 25 in the center of town (see Location Map page 528). Single family homes border the parcels to the east and Route 25 borders the parcels to the west. The parcel is not directly accessible except by adjacent neighbors. In order to reach the parcel visitors must park at the end of Longmeadow Road and walk 0.25 miles north parallel to Route 25 on State of Connecticut DOT land and it is not clear if this is allowable. Chain link fences run along Route 25 but several openings in the fences have been made by hikers. It may be possible to walk from the Deer Run Drive parcel south to the town owned Park Street parcel which does have hiking trails. Indian Ledge Park is just 0.10 miles to the west but is separated by the six-lane highway, Route 25 (see Surrounding Open Space Map page 533).



Trail paralleling Route 25 at south end of parcel

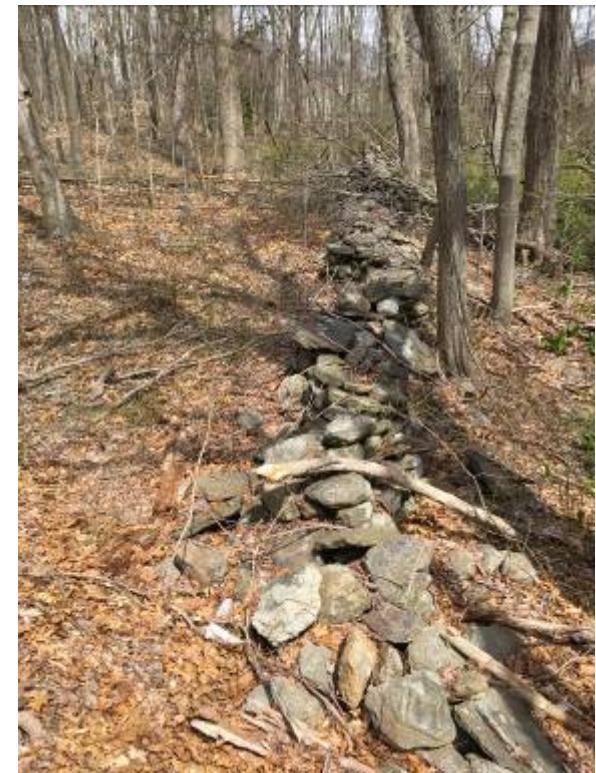
The Deer Run Drive parcel is entirely oak, tulip and hemlock trees and wooded wetlands and stream corridors (see Satellite Photograph Map page 529 and Ecological Communities Map page 534). Three streams flow east to west across the parcel and into the Pequonnock River 0.67 miles to the southwest. A 1-acre wetland lies in the center of the parcel (see Wetland Soils Map page 532). The main stream located in the northern section is littered with discarded appliances, tires, barrels and other trash.



Discarded appliances and trash in stream



Wetland with skunk cabbage; hemlock trees in background



Stone walls along the south, east and north boundaries

The parcel slopes westward from 350 feet above sea level at the northeastern boundary to 310 above sea level in the wetlands along the western boundary along Route 25 (see Elevations Map page 530 and Topographic Map page 531).

The parcel's southern section has medium sized tulip, black oak, black birch, black cherry and red maple trees that average approximately 12" in diameter. Hemlock, yellow birch, beech and a few hickory trees grow in the understory. A few blueberry shrubs, an isolated holly shrub and several invasive burning bush grow in the shrub layer while ground (princess) pine, green briar, Canada mayflower and trout lily grow on the ground layer.

In the lower and wetter center of the parcel where three streams flow east to west, skunk cabbage and false hellebore are common along with tulip and small hemlock trees, ironwood saplings and spice bush shrubs.

The northern section is higher and drier with black oak and hemlock trees growing above smaller sassafras and sugar maple saplings.

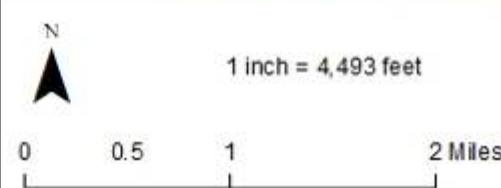
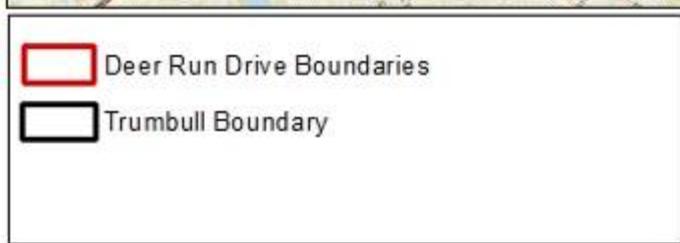
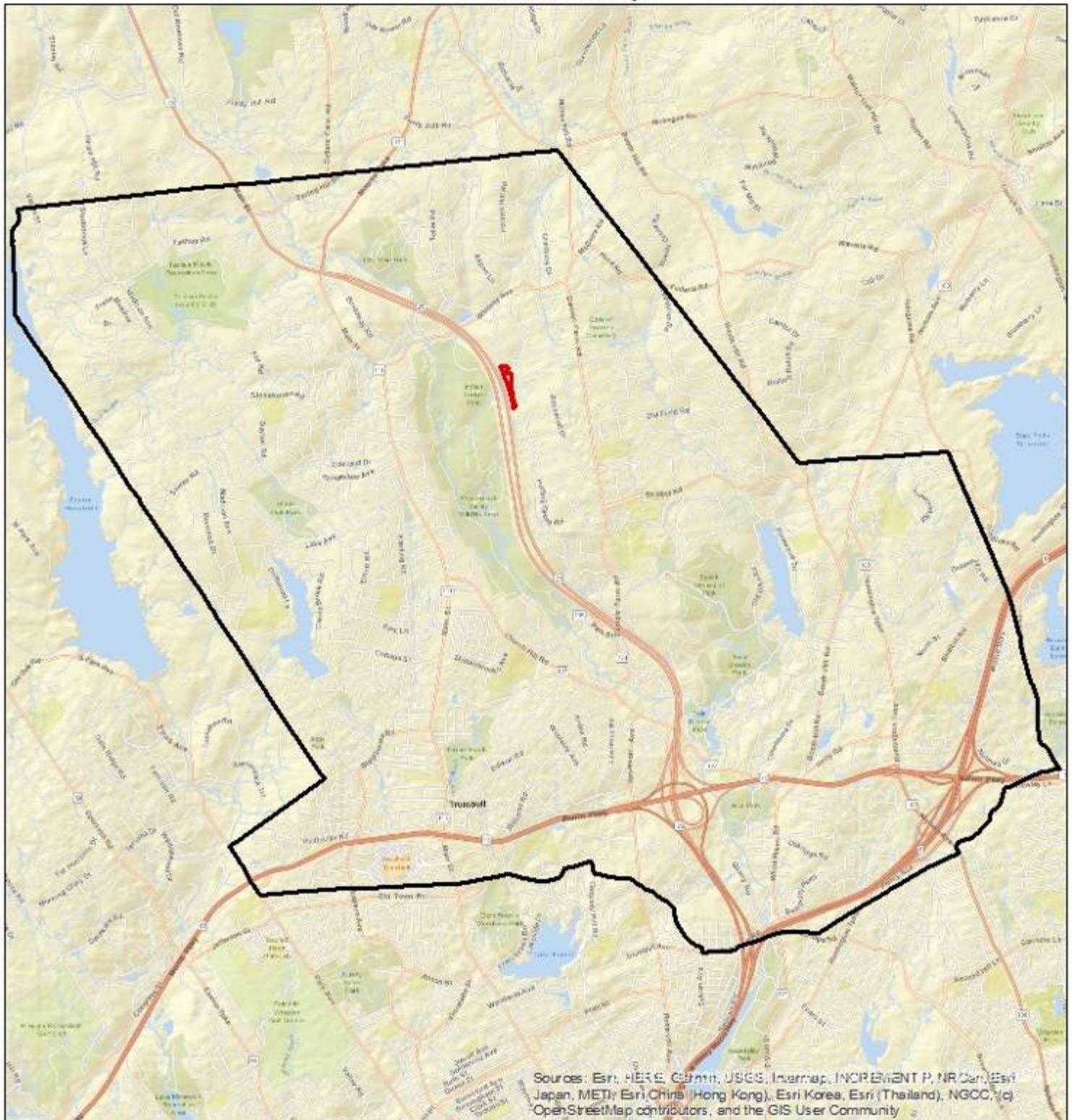
This small and isolated parcel serves as a noise and visual buffer between Route 25 and neighbors and can also support a short hiking trail for the immediate neighbors.

#### ECOLOGICAL COMMUNITIES:

The Deer Run Drive parcel has the following ecological communities (see Ecological Communities Map page 534 and Plant Inventory page 536):

Tulip-Oak Stand	2 acres
Oak-Hemlock Stand	1.8 acres
Wetland	<u>1 acre</u>
	4.8 acres

# Deer Run Drive Location Map



April 7, 2020

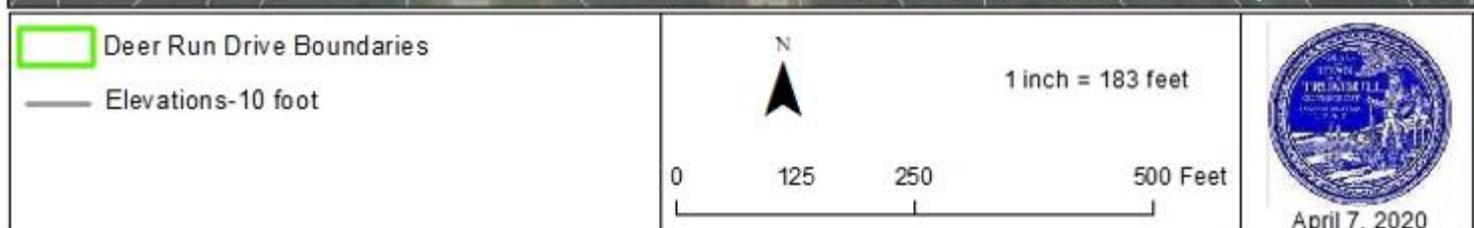
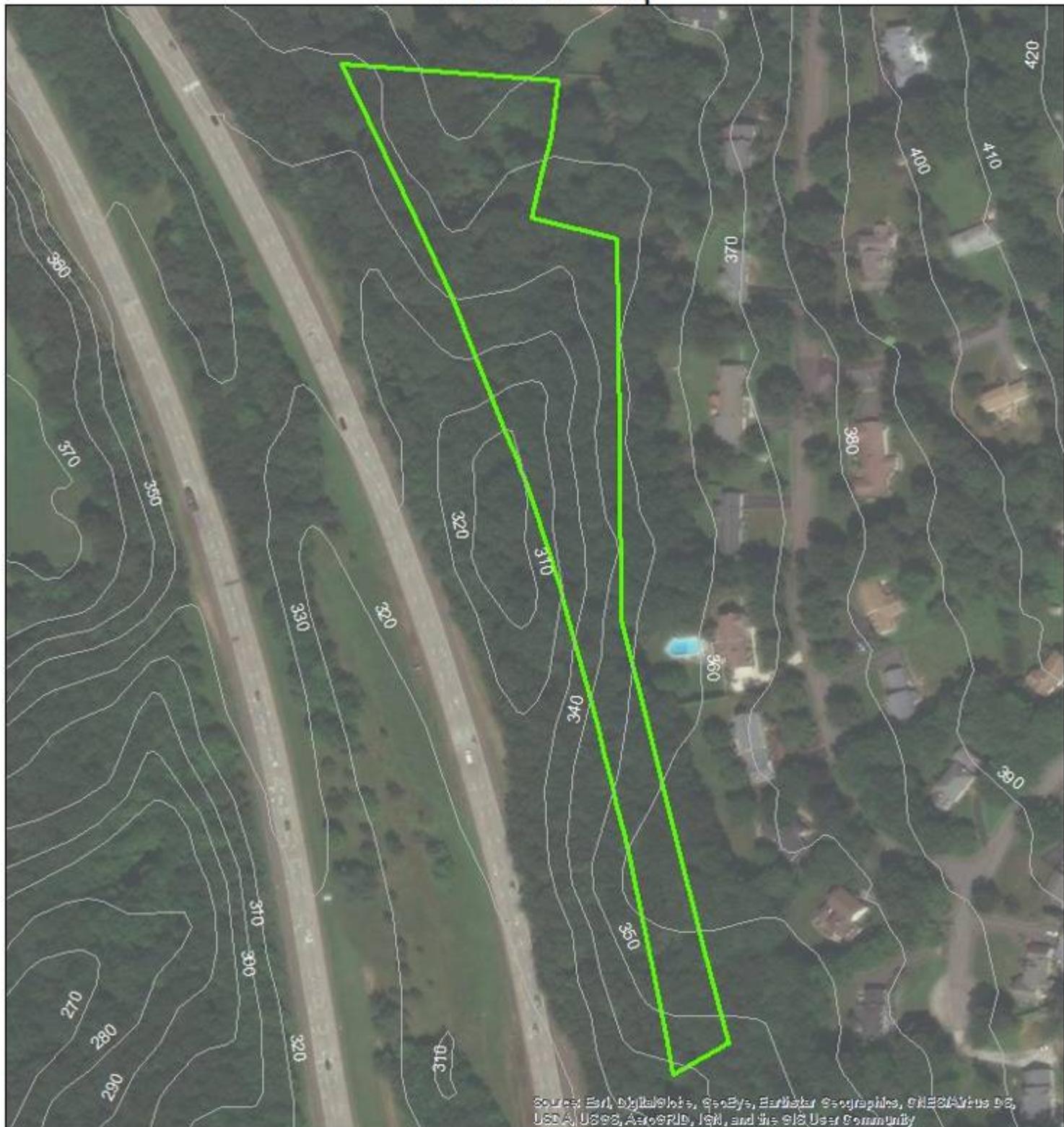
# Deer Run Drive Satellite Photograph Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AerialPhoto, IGN, and the GIS User Community

 Deer Run Drive Boundaries	 1 inch = 183 feet	
	0 125 250 500 Feet	April 7, 2020

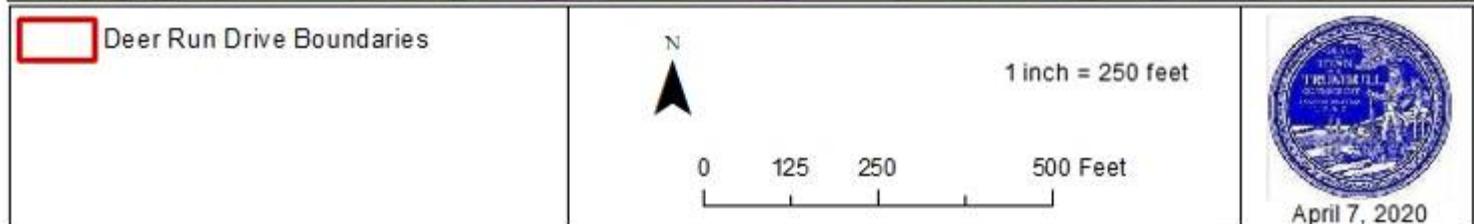
# Deer Run Drive Elevations Map



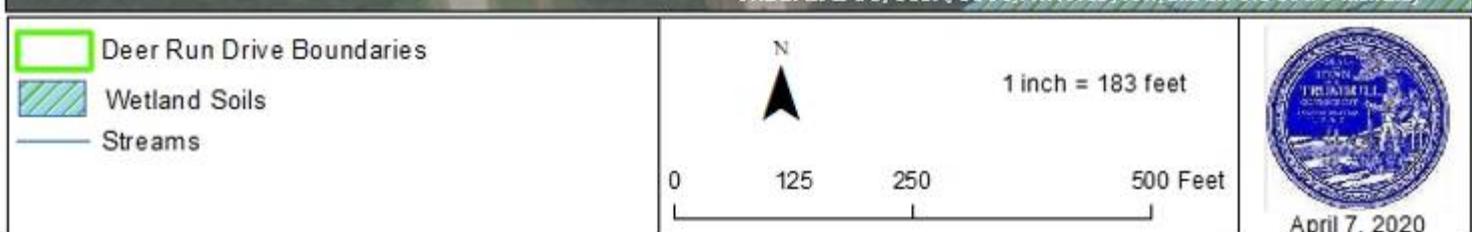
# Deer Run Drive Topographic Map



Copyright © 2013 National Geographic Society, i-cubed



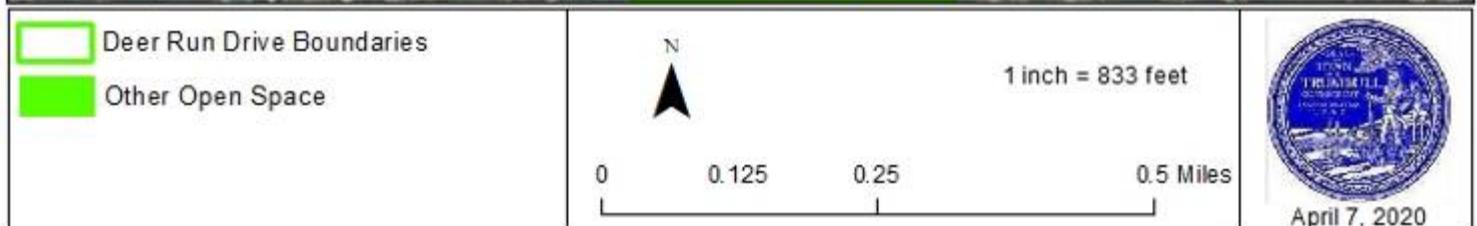
# Deer Run Drive Streams & Wetland Soils Map



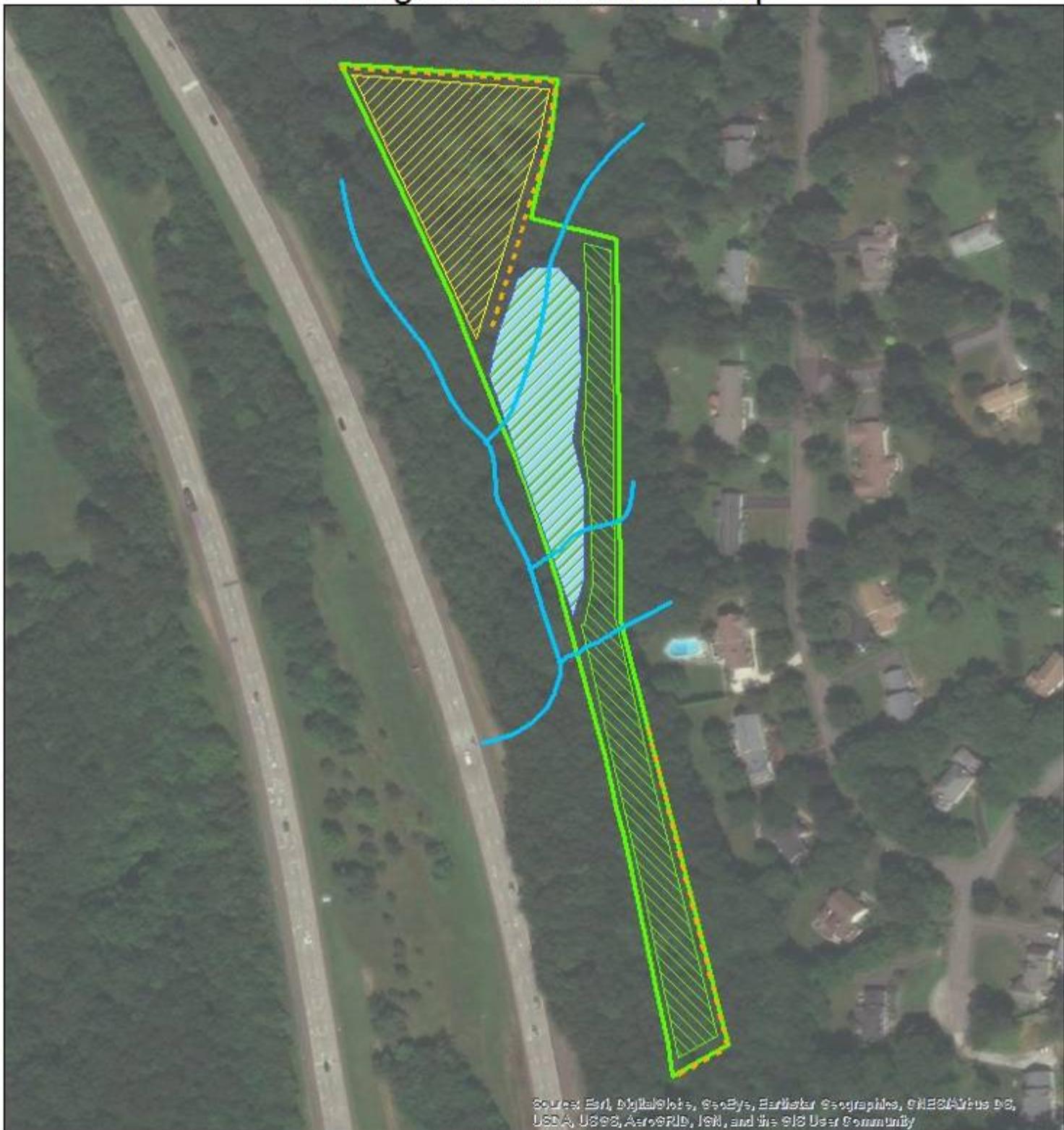
# Deer Run Drive Surrounding Open Space Map



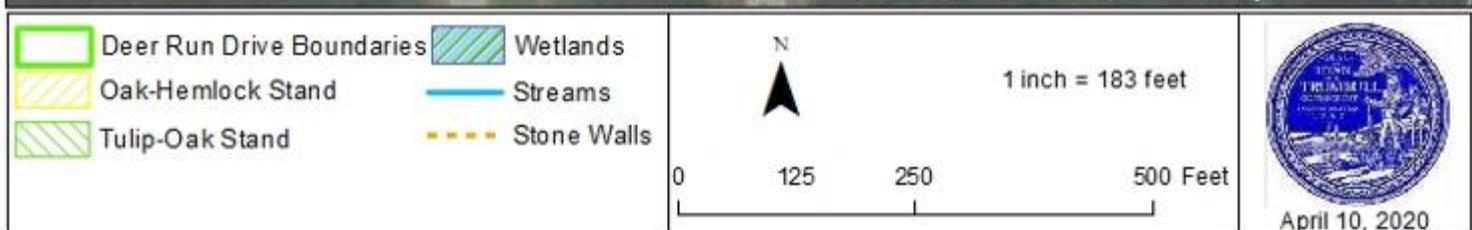
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# Deer Run Drive Ecological Communities Map



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, Aerial3D, IGN, and the Esri User Community



THREATS:

- Litter-appliances and trash in stream

RECOMMENDATIONS:

- Clean up trash

PLANT INVENTORY, September 17, 2019 Field Survey

**Trees:**

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula lenta* (black birch)  
*Carya cordiformis* (bitternut hickory)  
*Fagus grandifolia* (American beech)  
*Ilex opaca* (American holly)  
*Prunus serotina* (black cherry)  
*Quercus velutina* (black oak)  
*Sassafras albidum* (sassafras)  
*Tsuga canadensis* (eastern hemlock)

**Shrubs:**

*Euonymus alatus* (winged euonymus)  
*Lindera benzoin* (spicebush)  
*Vaccinium angustifolium* (low-bush blueberry)

**Vines:**

*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Herbs:**

*Erythronium americanum* (trout lily)  
*Maianthemum canadense* (Canada mayflower)  
*Ranunculus ficaria* (lesser celandine)  
*Symplocarpus foetidus* (skunk cabbage)  
*Varatrum viride* (false hellebore)

**Ferns and allies:**

*Polystichum acrostichoides* (Christmas fern)  
*Lycopodium obscurum* (ground pine)

## BOOTH HILL/HIDDEN POND

November 6, 2019 Field Survey

**CONSERVATION VALUES** include: Forests including mature interior forests, hemlock groves and other evergreen groves, wetlands and vernal pools, ponds, riparian zones, floodplain forests, streams and seeps, shrub swamp, open wet meadow, greenways connecting 8 parcels over 31 acres across Trumbull/Shelton borders, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study and scenic vistas.

### PROPERTY DESCRIPTION:

The 4.65-acre Hidden Pond Lane parcel and the 1.66-acre Booth Hill Road parcel are owned by the Town of Trumbull. Between these two parcels is a 12-acre parcel owned by Hidden Pond Development LLC.

Combined, the three parcels total 18 acres in size.

The parcel assemblage consists of interconnected ponds, streams and wetlands and is inventoried as one landscape. The 18 acres are located in the northeastern section of Trumbull along the Trumbull/Shelton boundary (see Location Map page 542). The parcels are accessible only from Hidden Pond Drive.



Dam at southern end of Hidden Pond



These three parcels connect to five open space parcels owned by the City of Shelton just to the north across the town boundary. These 8 parcels combined total 31 acres in size (see Surrounding Open Space & Hiking Map page 549). The Town of Shelton parcels have hiking trails which could be extended south to the Town of Trumbull's Hidden Pond parcel.

The privately owned Hidden Pond Development parcel has been heavily bull-dozed in the past, perhaps in attempt to divert water to allow development. Many old culvert pipes are strewn across the parcel's eastern and center portions along including dozens of tires, hoses, plywood and concrete pipes. The elevated dirt road in the center of the property is overtopped with flood water and past attempts to direct the flow from the six streams have failed.



Construction debris on privately owned Hidden Pond Development parcel

Despite the excavation done in the past, the Booth Hill-Hidden Pond Lane-Hidden Pond Development parcels are returning to their natural state. The parcels are mostly wooded with the exception of Hidden Pond, two smaller ponds and an open wet meadow (see Satellite Photograph Map page 543 and Streams & Wetland Soils Map page 547). Approximately 11 acres or 60% of the three parcels have wetland soils. At least six streams flow through the parcels. Elevations are flat at 270 to 280 feet above sea level except for the far eastern and western edges of the parcels which lie at 290 feet in elevation (see Elevations Map page 545 and Topographic Map page 546). Because of this topography, the parcels act as a basin collecting water from the surrounding homes and streets. The result is a series of meandering streams that over flow their banks, creating very wet conditions. The property is surrounded by single-family housing except for the City of Shelton open space at the northeastern boundary (see Surrounding Open Space & Hiking Trails Map page 549).

The combination of ponds, streams, wetlands and uplands creates a variety of interesting and important habitats (see Ecological Communities Map page 548).

The parcels' center portion where several streams converge is a red maple swamp with medium-sized red maples, tulips and elms along with black birch and black oaks, white oaks and swamp white oaks with beech and ironwood in the understory. The shrub layer includes witch hazel, sweet pepperbush, blueberry and invasive burning bush.

A large area of standing water has formed a shrub swamp in the parcels' east-central portion. This unique habitat of medium-sized red maple, swamp white oak and tupelo trees, winterberry, blueberry and sweet pepperbush shrubs and standing water attracts many types of waterfowl along with other birds, reptiles and amphibians and other wildlife.



Scrub swamp habitat



Scrub swamp habitat

A hemlock grove with princess pine (ground pine) growing beneath it is found in the south-central portion where the six streams converge and flow west. The south west section is an open wet meadow, now dominated by invasive mugwort. Aerial photographs from 1990 appear to show that this was farmland in the past (see 1990 Aerial Photograph page 544).

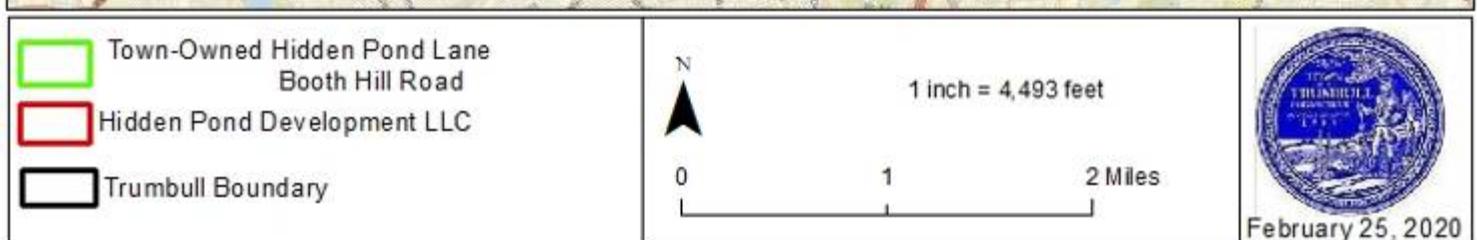
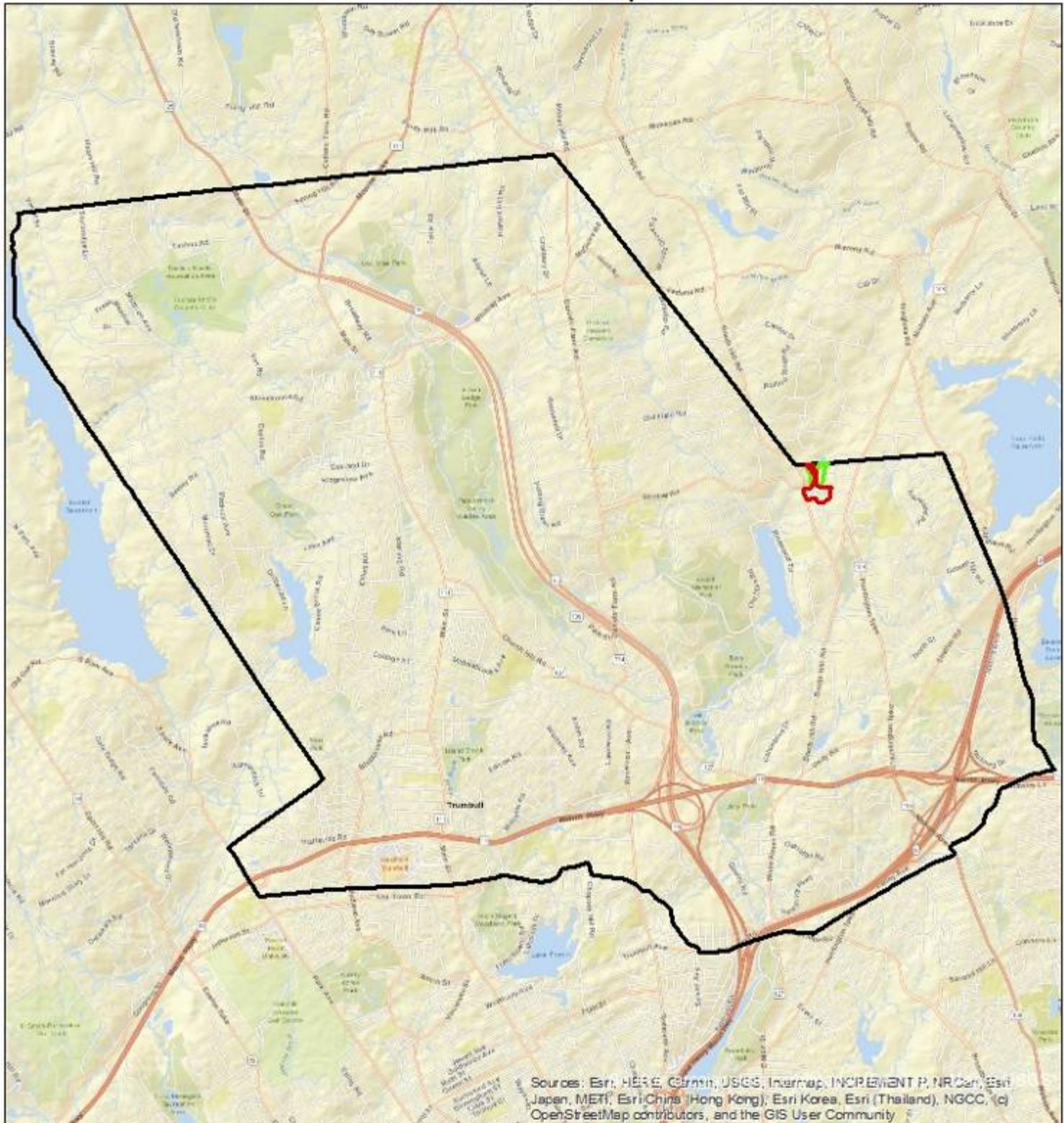
The parcels' eastern edge is slightly higher in elevation and drier with black oaks, hickories, black birch and beech trees. A large, cement foundation lies in the far eastern section of the parcel. The area has been disturbed and consequently invasive plants, including burning bush, dominate the shrub layer.

The area around Hidden Pond is also higher and drier with white and red oak trees, blueberry and mountain laurel shrubs and many white pine seedlings in the ground layer. Large white pines grow on the western shore of the pond. Gray birch grow in the sunnier areas found along the shore and on an island in the center of the pond. Alders and sweet pepperbush grow along the banks of the pond; cattails and woolgrass grow in the shallow water close to shore.

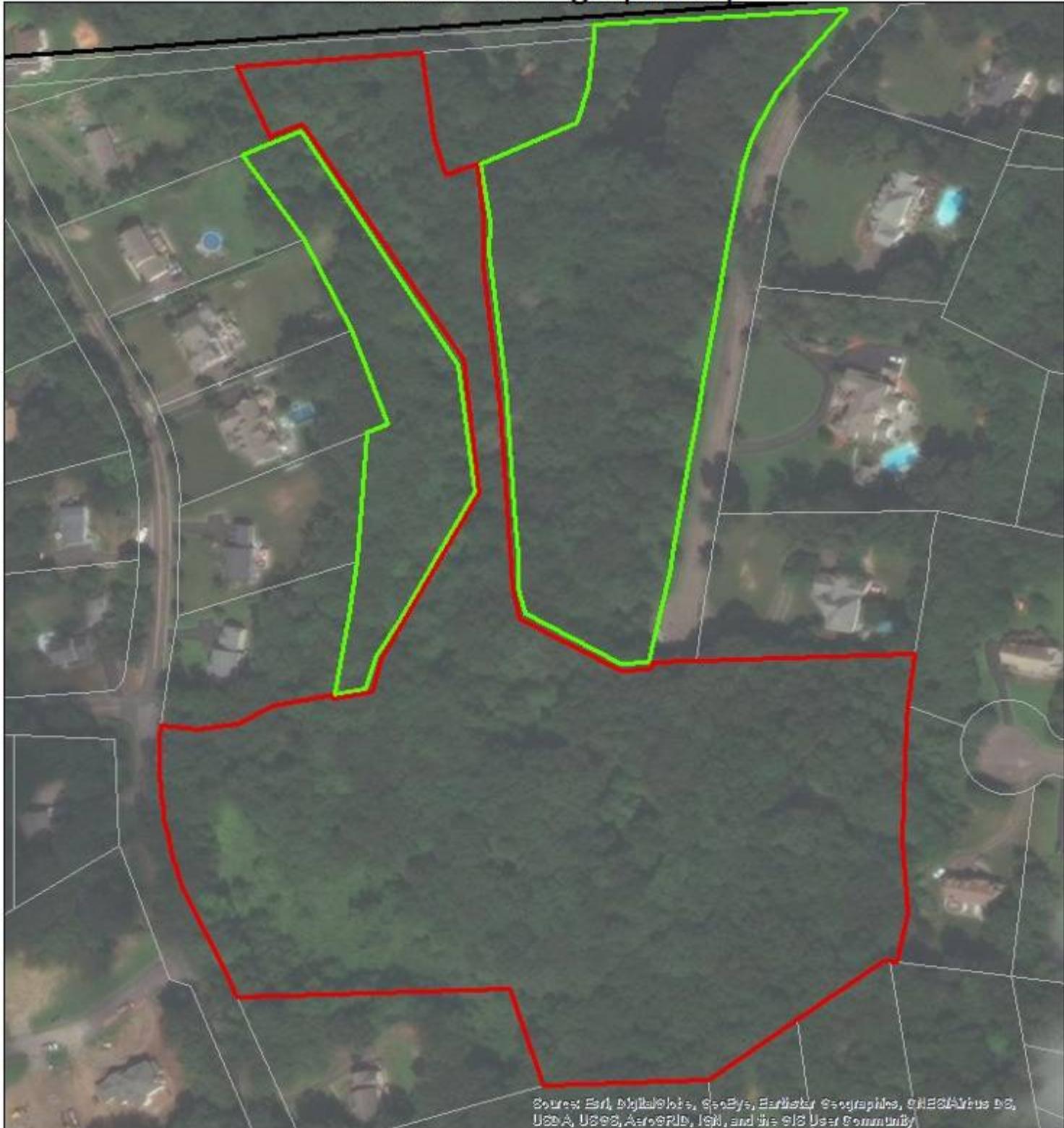


Gray birch on island in center of Hidden Pond with large white pines in background

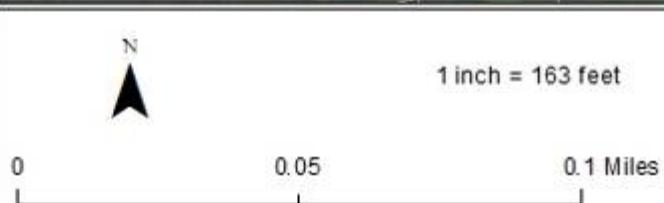
# Booth Hill/Hidden Pond Lane/Hidden Pond Development LLC Location Map



# Booth Hill/Hidden Pond Lane/Hidden Pond Development LLC Satellite Photograph Map

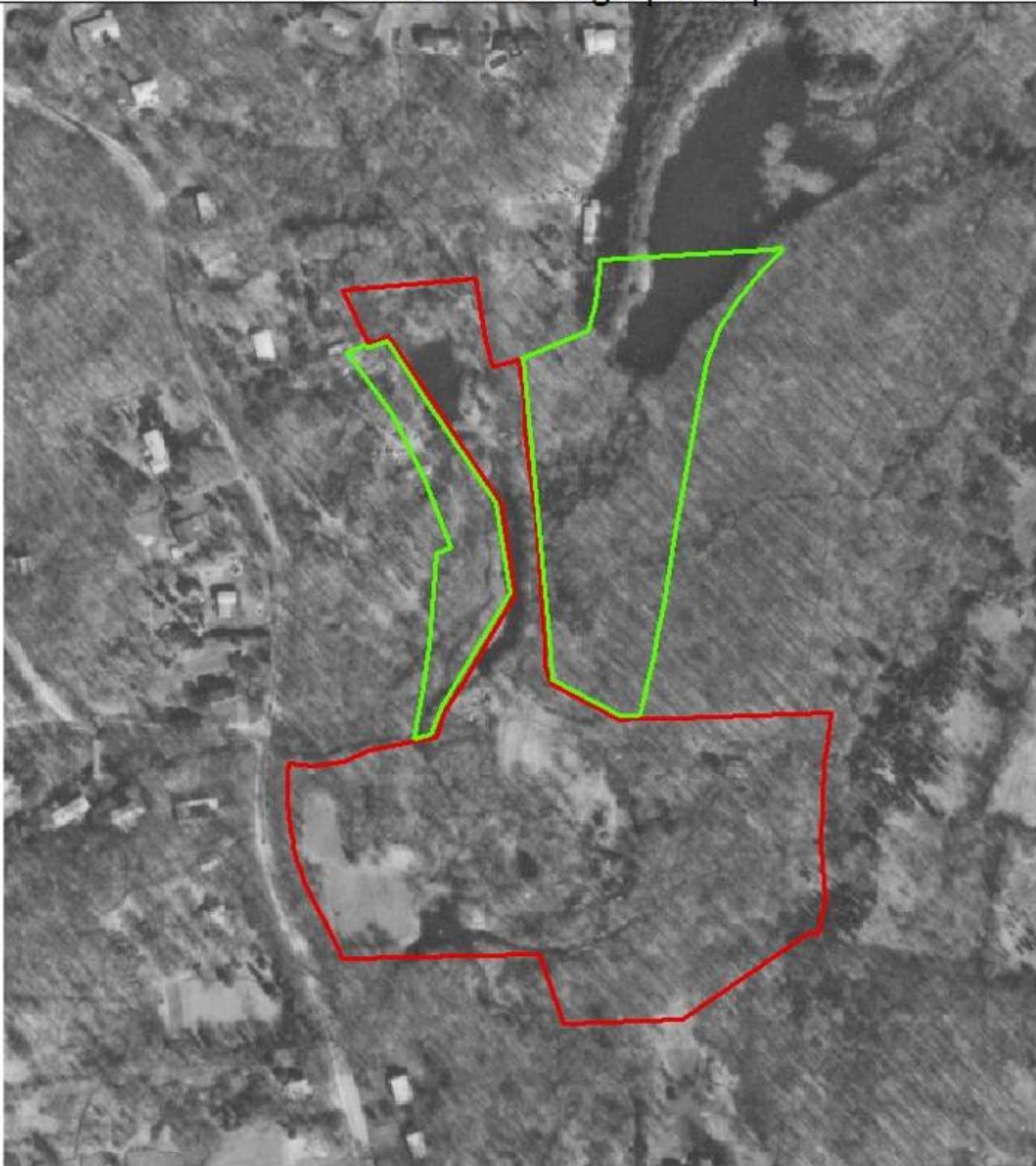


Town Owned Booth Hill Road Hidden Pond Lane	Hidden Pond Development LLC
Trumbull Boundary	
Trumbull Parcels	



February 24, 2020

Booth Hill/Hidden Pond Lane/Hidden Pond Development LLC  
1990 Aerial Photograph Map

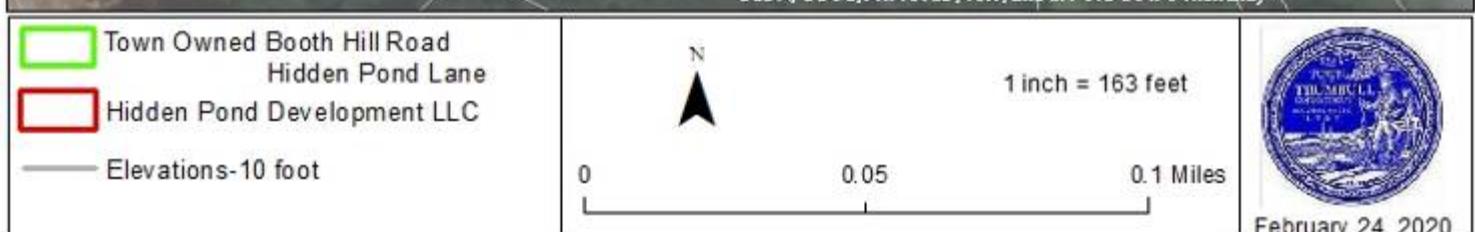
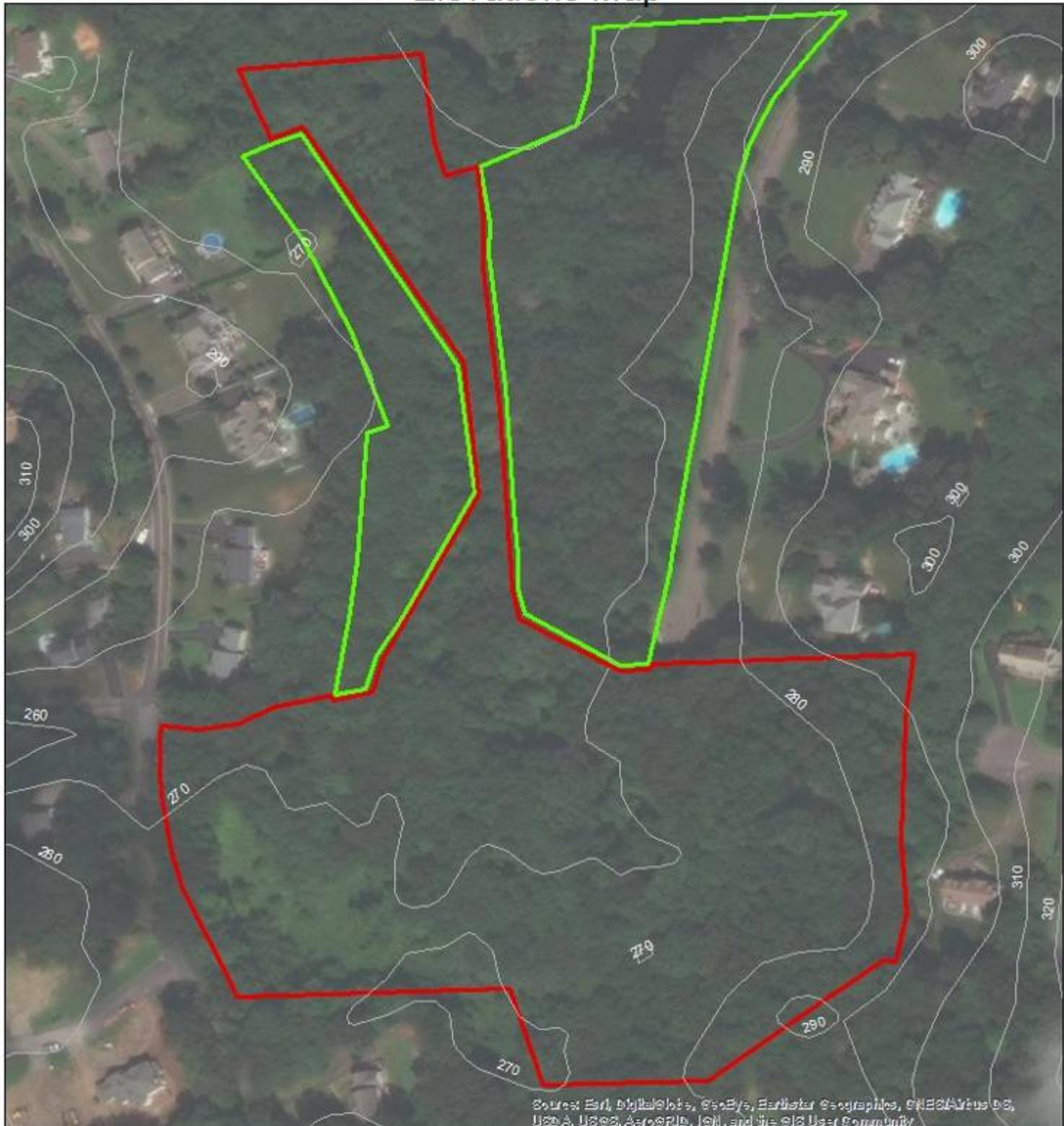


  Town-Owned Booth Hill Road &  
Hidden Pond Lane  
  Hiden Pond Development LLC

N  
1 inch = 234 feet  
0    0.025    0.05    0.1 Miles

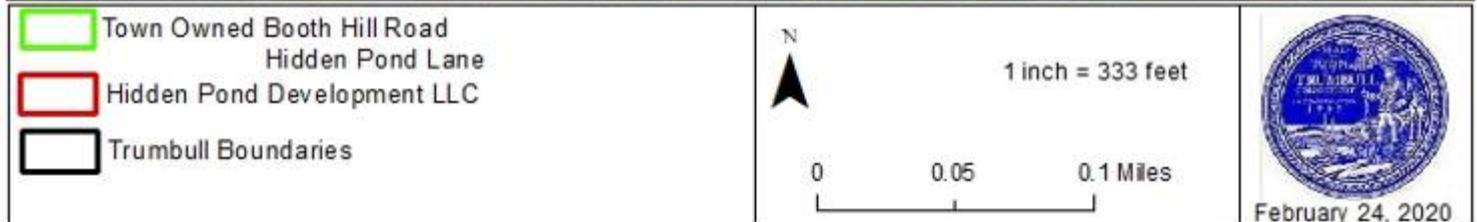


# Booth Hill/Hidden Pond Lane/Hidden Pond Development LLC Elevations Map

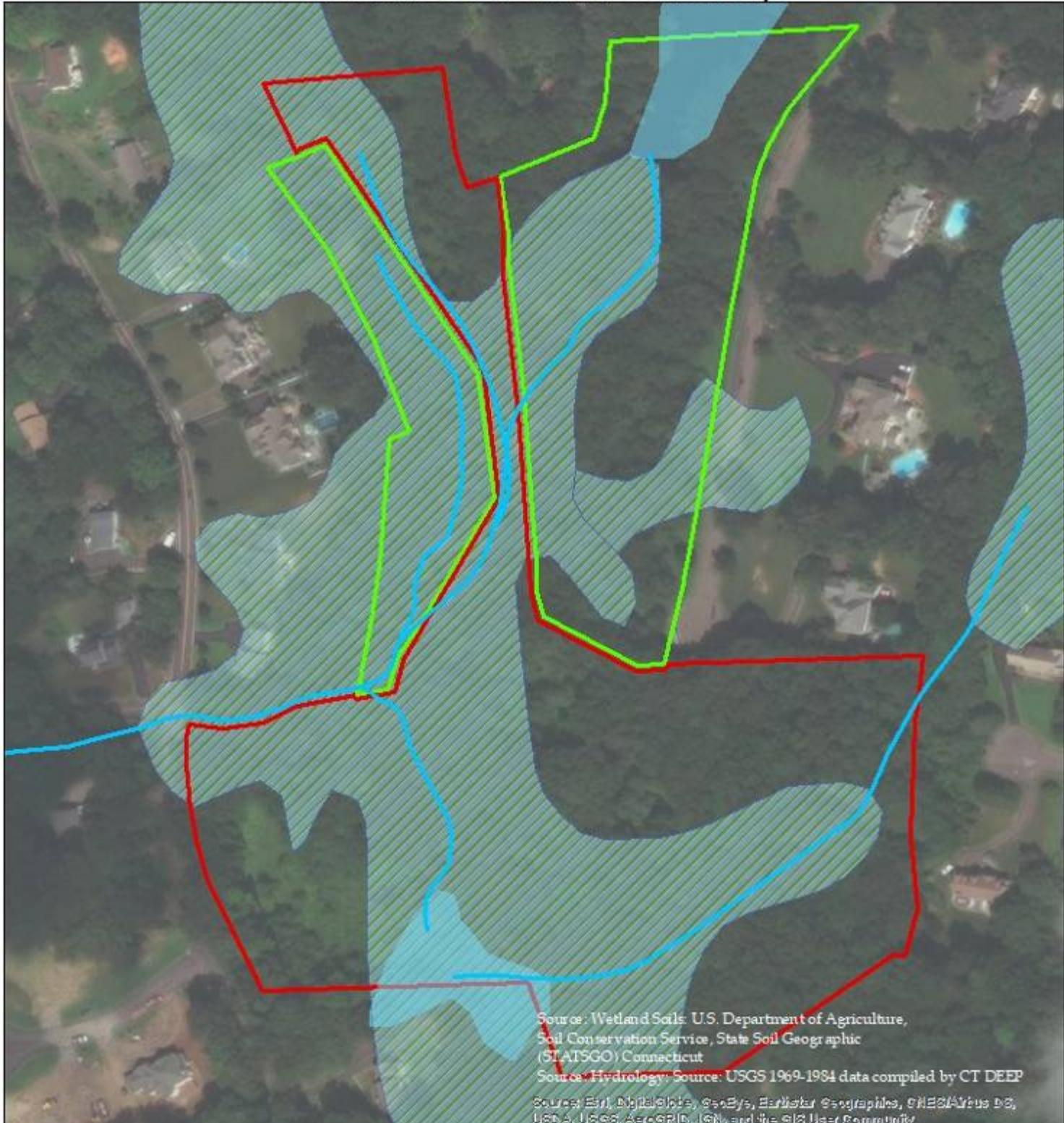


# Booth Hill/Hidden Pond Lane/Hidden Pond Development LLC

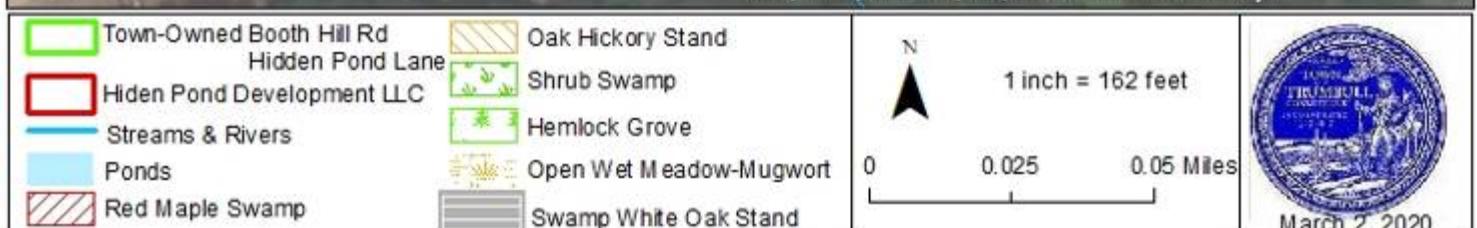
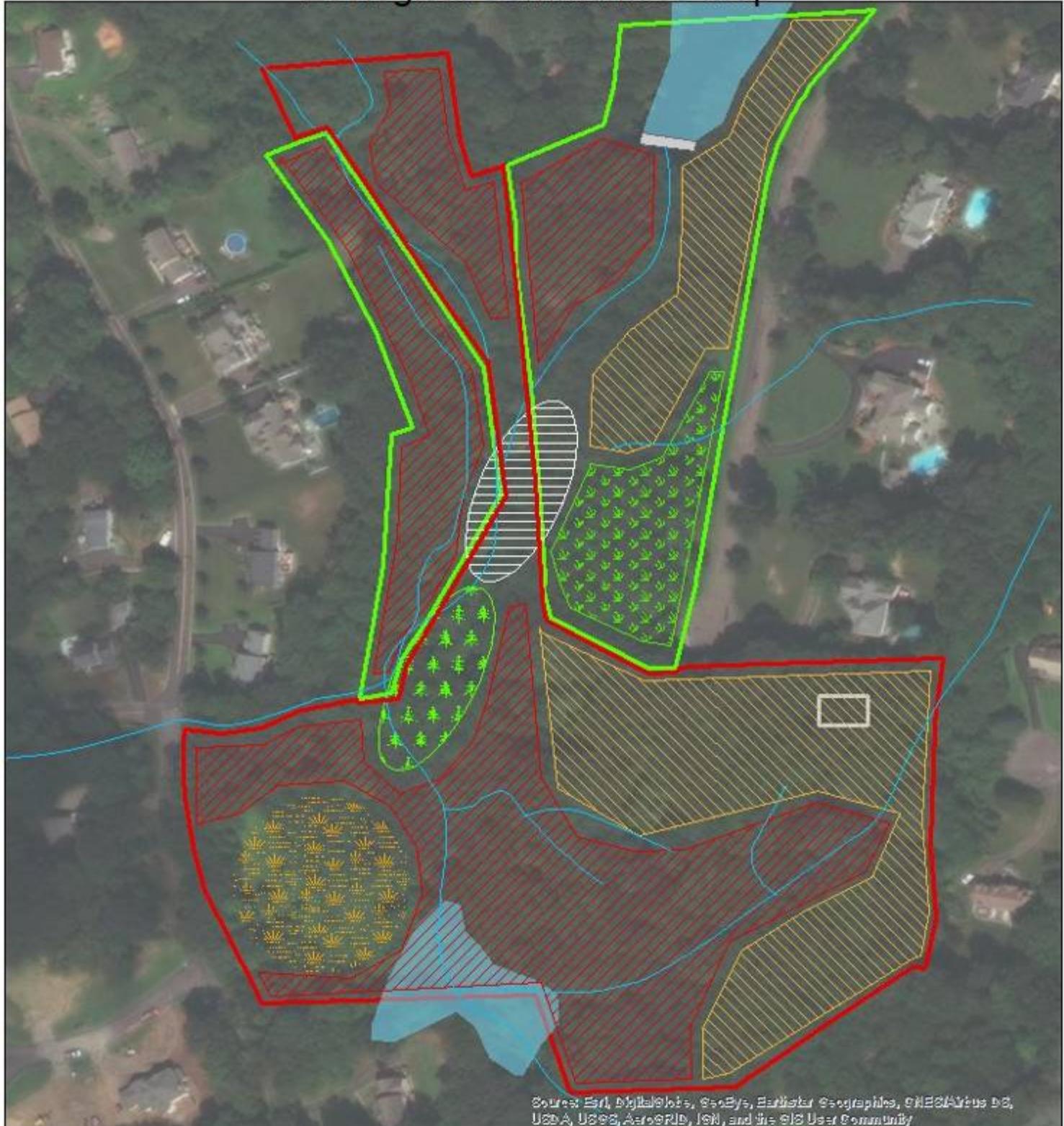
## Topographic Map



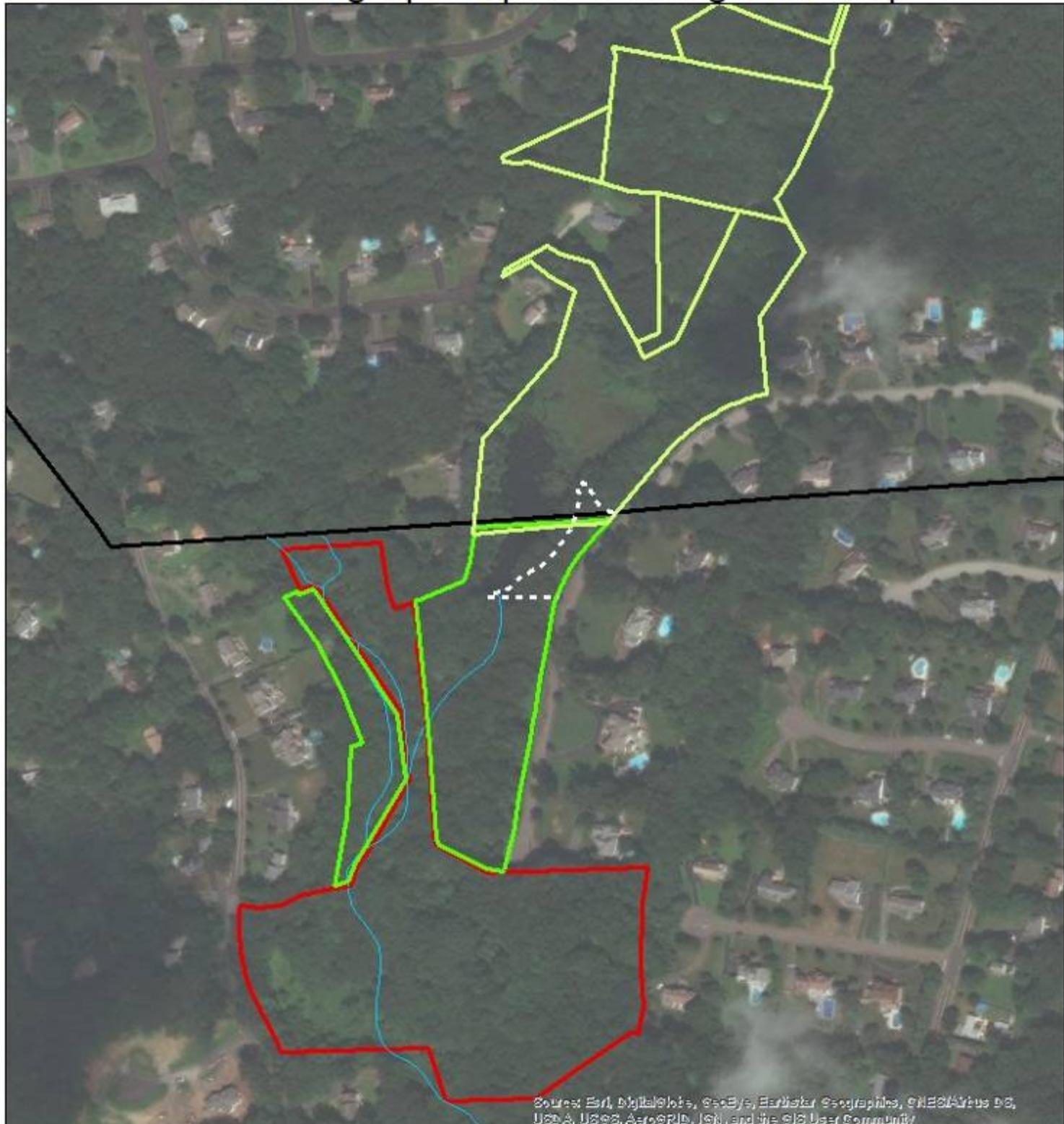
# Booth Hill/Hidden Pond Lane/Hidden Pond Development LLC Streams & Wetland Soils Map



# Booth Hill/Hidden Pond Lane/Hidden Pond Development LLC Ecological Communities Map



# Booth Hill/Hidden Pond Lane/Hidden Pond Development LLC Surrounding Open Space & Hiking Trails Map



<span style="border: 1px solid green; display: inline-block; width: 15px; height: 10px;"></span> Town Owned Booth Hill Road-1.66 acres	<span style="border: 1px solid yellow; display: inline-block; width: 15px; height: 10px;"></span> Town of Shelton Open Space-13 acres
<span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Hidden Pond Development LLC-12 acres	<span style="border: 1px solid blue; display: inline-block; width: 15px; height: 10px;"></span> Hiking Trail



0 0.025 0.05 0.1 Miles

1 inch = 302 feet



## THREATS:

- Water pollution from leaching construction debris/diversion of natural water flows
- Flooding
- Future development increasing flooding throughout the area
- Litter-much construction and demolition debris litters the privately owned parcel
- Invasive mugwort in open wet meadow; invasive burning bush around old foundation
- Diseases/woolly adelgid killing hemlock trees
- Climate change increasing flooding

## RECOMMENDATIONS:

- Acquire the Hidden Pond Development parcel to create 31 acre greenway
- Require owner to remove construction and demolition debris
- Stormwater improvements to control stormwater erosion, pollution and flooding by restoring the natural flow of the water
- Monitor/treat hemlocks
- Monitor/remove invasive mugwort and burning bush if spreading
- Trails-create loop trails across parcels if acquired
- Regulation/Enforcement/Training

PLANT INVENTORY, November 6, 2019 Field Survey (a greater variety of plants would be found during the growing season)

**Trees:**

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula lenta* (black birch)  
*Betula populifolia* (gray birch)  
*Carpinus caroliniana* (ironwood)  
*Carya ovata* (shagbark hickory)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Liriodendron tulipifera* (tulip tree)  
*Nyssa sylvatica* (tupelo)  
*Pinus strobus* (white pine)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus bicolor* (swamp white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Tsuga canadensis* (eastern hemlock)  
*Ulmus americana* (American elm)

**Shrubs:**

*Alnus serrulata* (smooth [common] alder)  
*Clethra alnifolia* (pepperbush)  
*Euonymus alatus* (winged euonymus)  
*Hamamelis virginiana* (witch hazel)  
*Kalmia latifolia* (mountain laurel)  
*Lindera benzoin* (spicebush)  
*Rosa multiflora* (multiflora rose)  
*Vaccinium corymbosum* (high-bush blueberry)

**Herbs:**

*Typha latifolia* (common cattail)

**Sedges & Rushes:**

*Scirpus cyperinus* (wool grass)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Sedges & Rushes:**

*Carex stricta* (tussock sedge)

**Ferns and allies:**

*Lycopodium obscurum* (princess pine/ground pine)

## MAIN STREET/TEMPLE STREET/CATHERINE STREET

March 5, 2020 Field Survey

**CONSERVATION VALUES** include: Forests, a short hiking trail, wetlands and vernal pools, floodplain forests, streams and seeps, shrub swamp, greenways connecting five parcels 13 acres in size, nesting sites and stop over sites for migrating birds, habitat for pollinators, opportunities for passive recreation and nature study.

### PROPERTY DESCRIPTION:

This 13.45 acre assemblage is comprised of five parcels located in the center of Trumbull along the west side of Main Street (see Location Map page 554). The three town-owned parcels are referred to as Main Street-Temple Street which is 3.81 acres in size and Rockwell Avenue which is two 0.46 acre parcels. These three town owned parcels total 4.73 acres and are also referred to as the Catherine Street parcel, listed as 4.73 acres.

Adjacent and to the north are two private parcels owned by Krisak: a vacant, 4.63 acre parcel and a 5.01 acre parcel that is mostly wooded with the Burroughs Cider Mill and a single family home, both located along the road at 5917 Main Street.

The three town-owned parcels can be accessed at Main Street and Mayfield Drive. The private parcel is at Catherine Street where the paved road is interrupted and becomes an informal dirt hiking trail. It is used by students going to and from school, though it is private property.

Wetlands make up approximately half of the properties' area and are located in the center of the parcels where elevations are the lowest (see Streams & Wetland Soils Map page 558). Elevations drop from 420 feet above sea level at Main Street to a low point of 380 feet in the center of the properties (see Elevations Map page 556 and Topographic Map page 557). A drainage ditch runs north and south through the Krisak property.

The properties are completely surrounded by single-family housing, condominiums and commercial buildings (see Surrounding Open Space Map page 560). The properties are entirely wooded (see Satellite Photograph Map page 555 and Ecological Communities Map page 559). Medium sized mixed deciduous trees are found in upland areas at the properties' far eastern and western sections while red maples dominate the wetland areas. Open-canopy

scrub wetlands with by alder shrubs are found in the southern portions of the town owned parcel.

It may be possible to create a hiking trail through dry portions of the town owned parcel, beginning at the gazebo and ending at the privately-owned trail that runs along the Catherine Street extension.

The Main Street/Temple Street/Catherine Street/Rockwell Avenue parcels and the private Krisak parcels have the following ecological communities (see Ecological Communities Map page 559):

**MIXED DECIDUOUS STAND:**

This stand is found in the higher, drier western and eastern portions of the properties and consists of medium to large beech, red oak, black oak, tulip, red maple and bitternut hickory trees. The understory is made up of black birch, white oaks and many beech saplings. The shrub layer and ground layer are very thin, consisting of occasional witch hazel shrubs.



View east of medium sized mixed deciduous trees

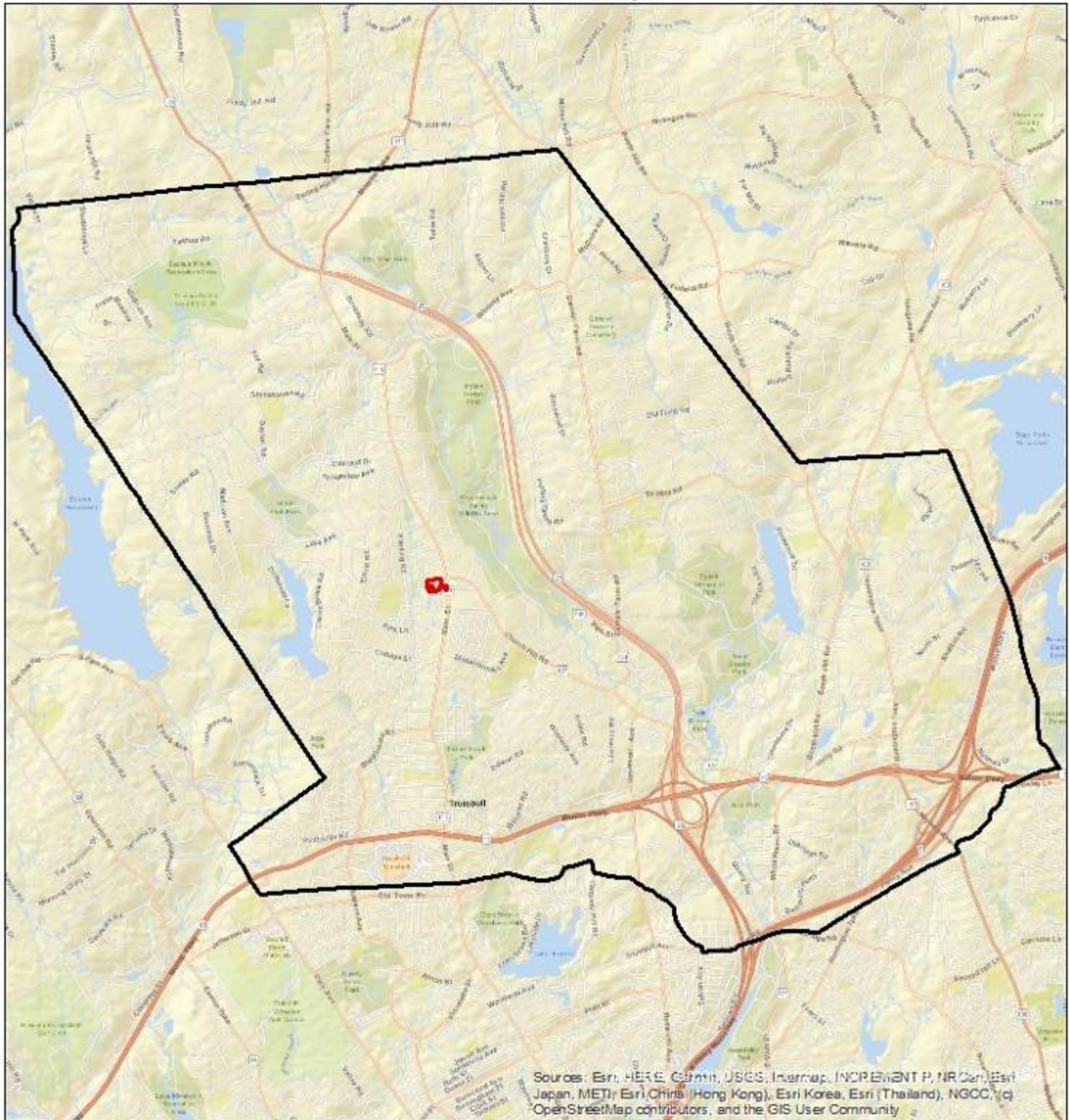
**RED MAPLE SWAMP:**

This stand is found in the wetter, lower elevation sections of the properties and consists of medium sized red maple, tulip and tupelo trees. The understory is sparse but in more open areas is quite dense with sweet pepperbush, silky dogwood and alder shrubs. Tussock sedge and sensitive fern are common in the ground layer.

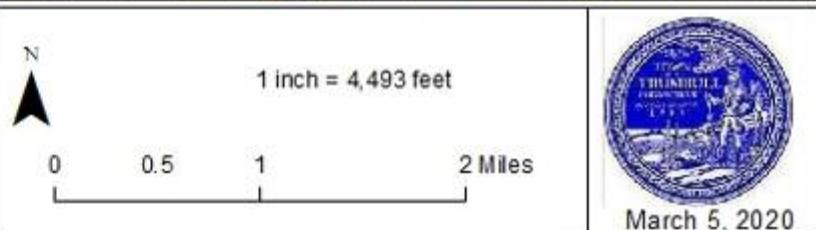


View east of scrub wetlands

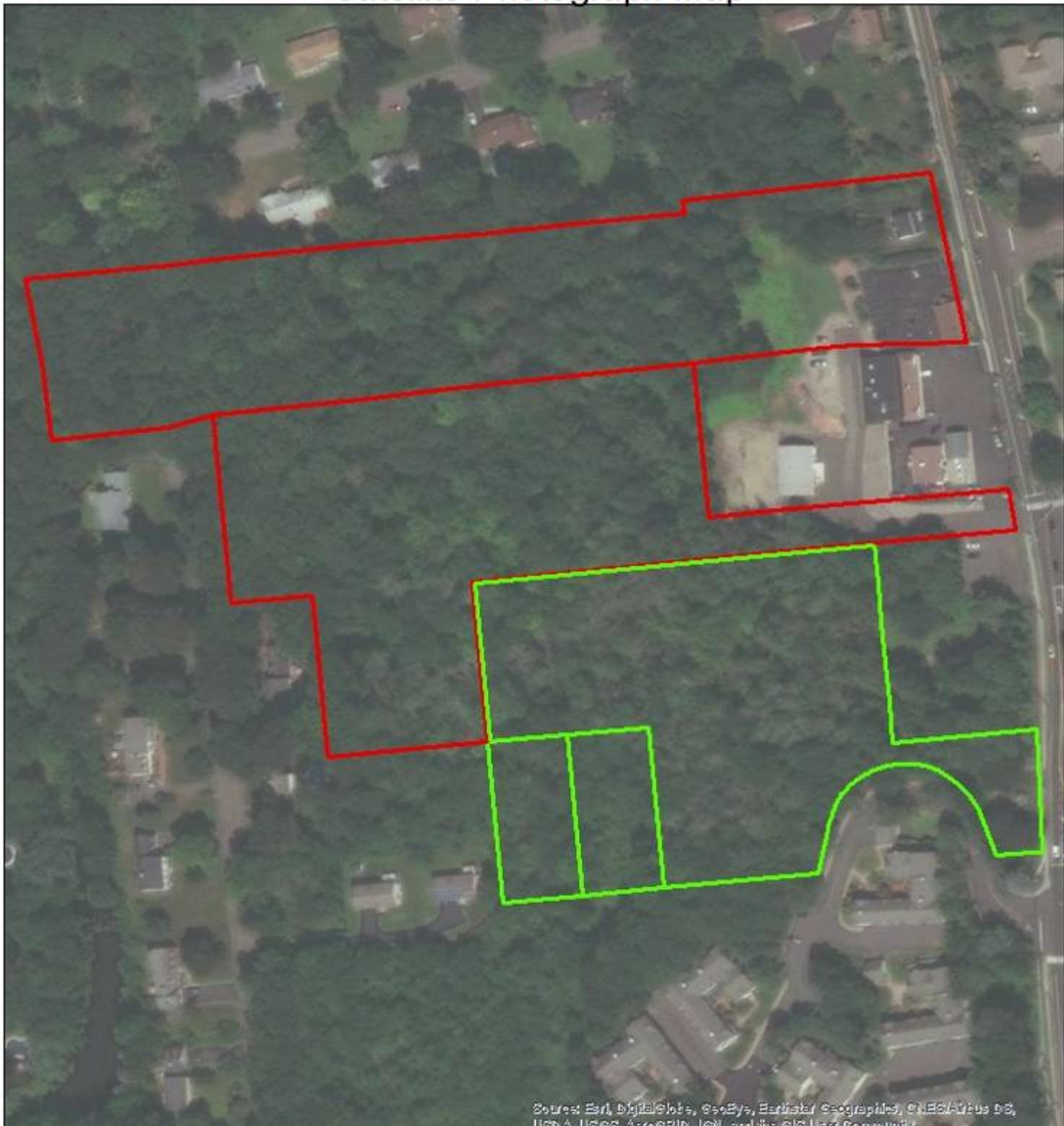
# Main Street-Temple Street Location Map



Sources: Esri, HERE, GADM, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



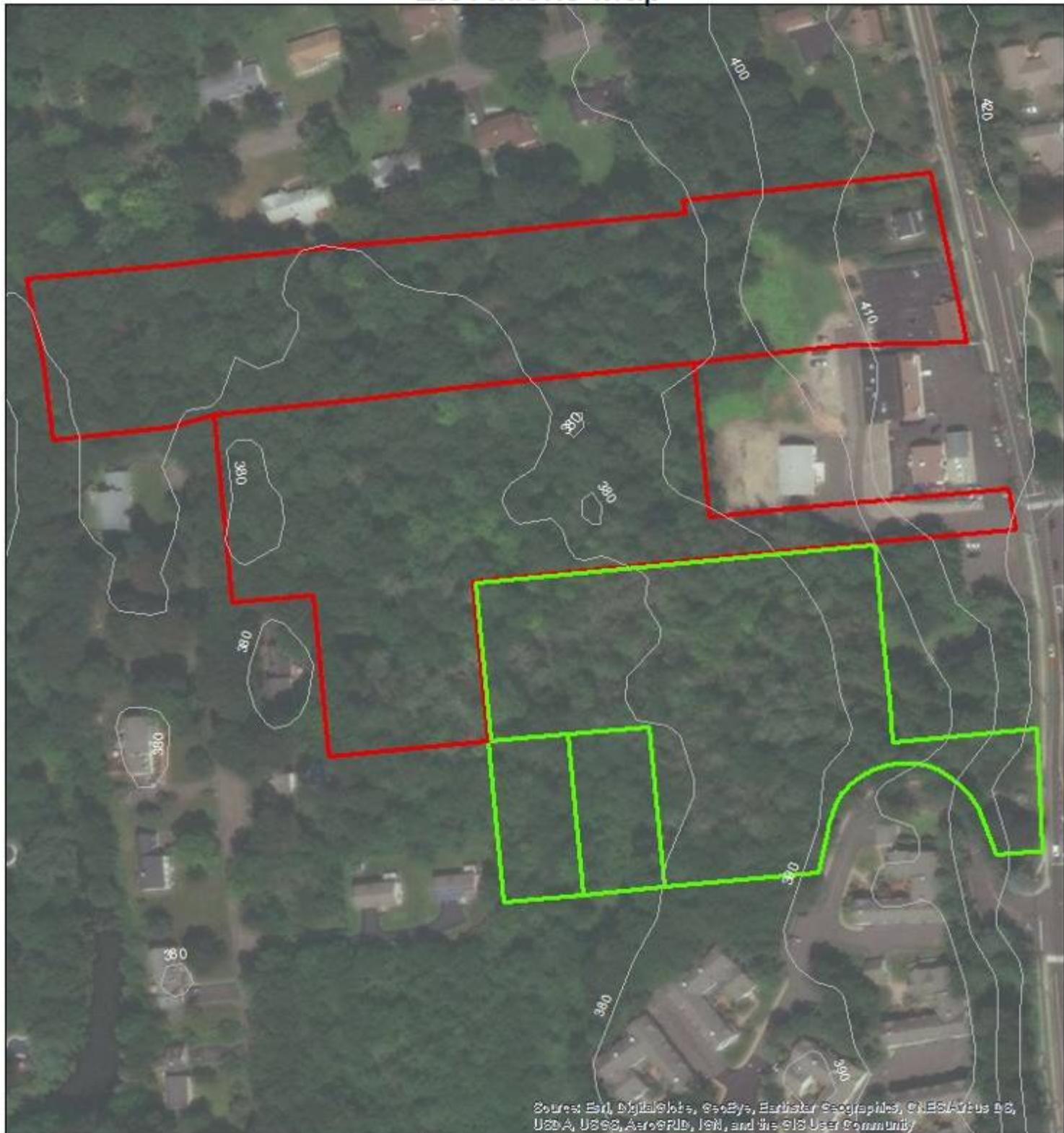
# Temple Street-Main Street Town Owned Parcels Satellite Photograph Map



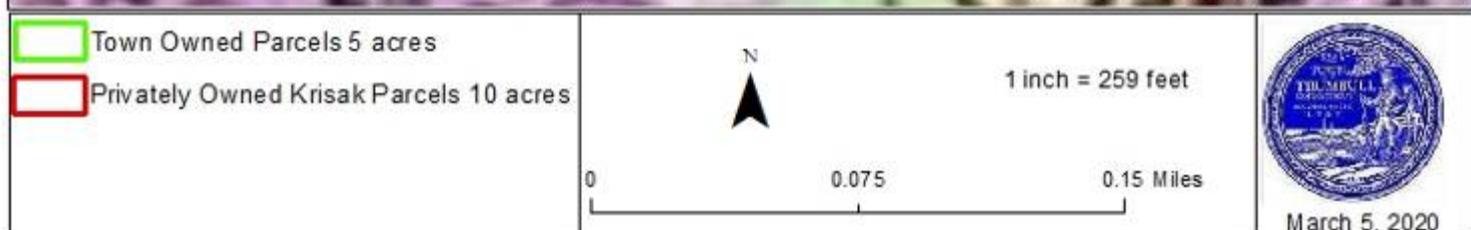
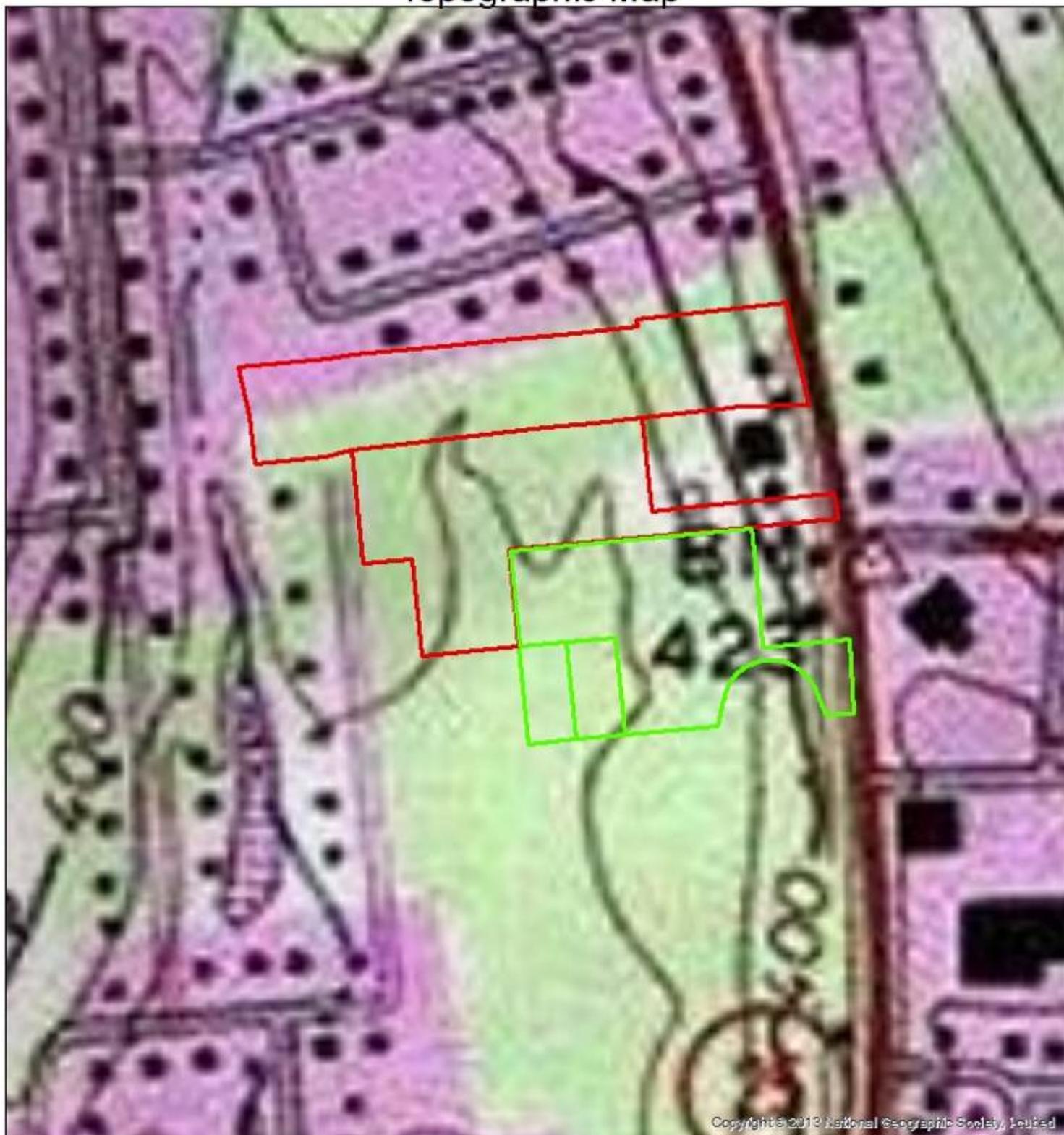
Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



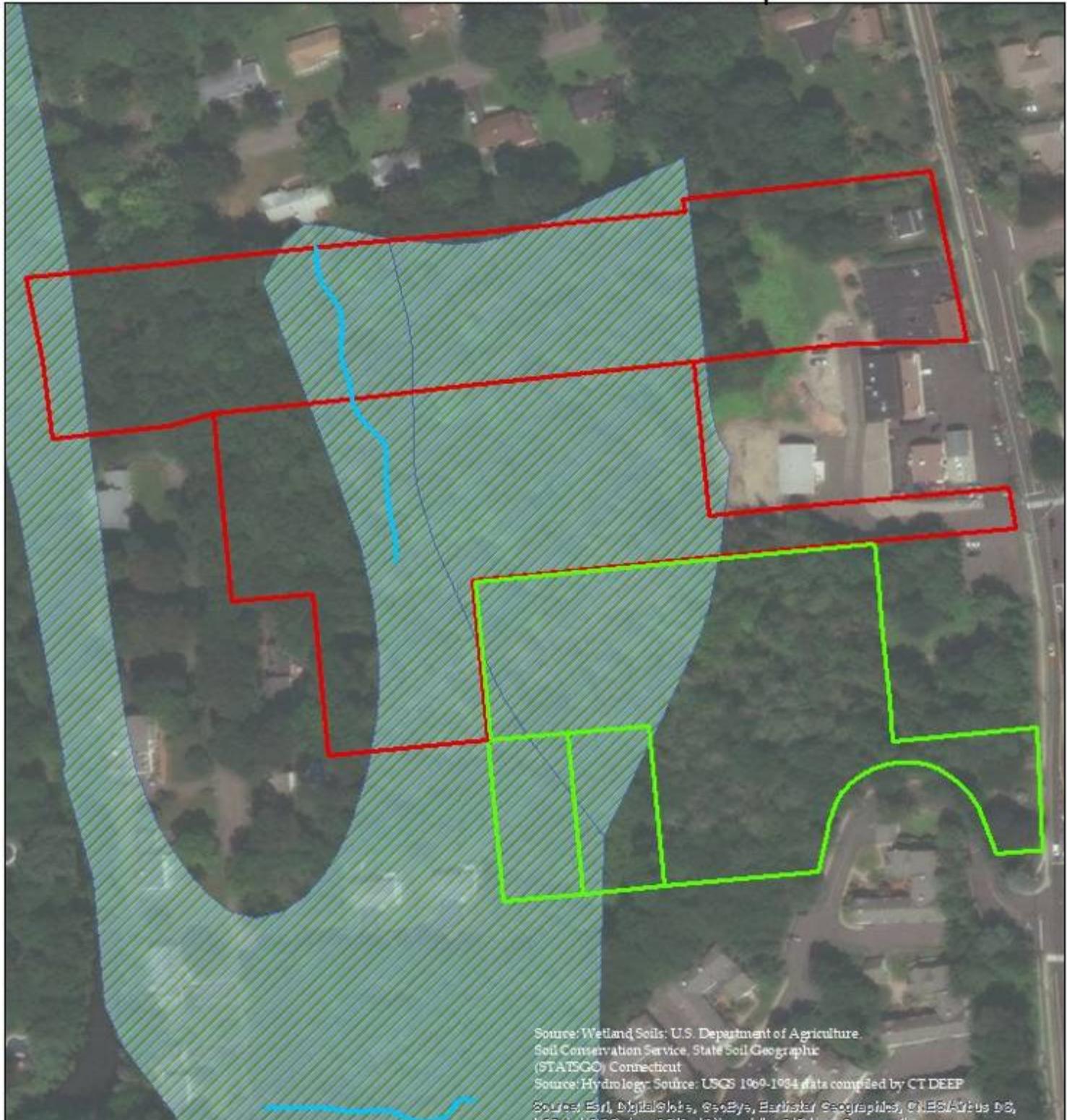
# Temple Street-Main Street Town Owned Parcels Elevations Map



# Temple Street-Main Street Town Owned Parcels Topographic Map



# Temple Street-Main Street Town Owned Parcels Streams & Wetland Soils Map



<span style="border: 1px solid green; background-color: green; display: inline-block; width: 15px; height: 10px;"></span> Town Owned Parcels 5 acres
<span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px;"></span> Privately Owned Krisak Parcels 10 acres
<span style="background-color: #a6c9d9; display: inline-block; width: 15px; height: 10px;"></span> Wetland Soils
<span style="border: 1px solid lightblue; display: inline-block; width: 15px; height: 10px;"></span> Streams



0

0.05

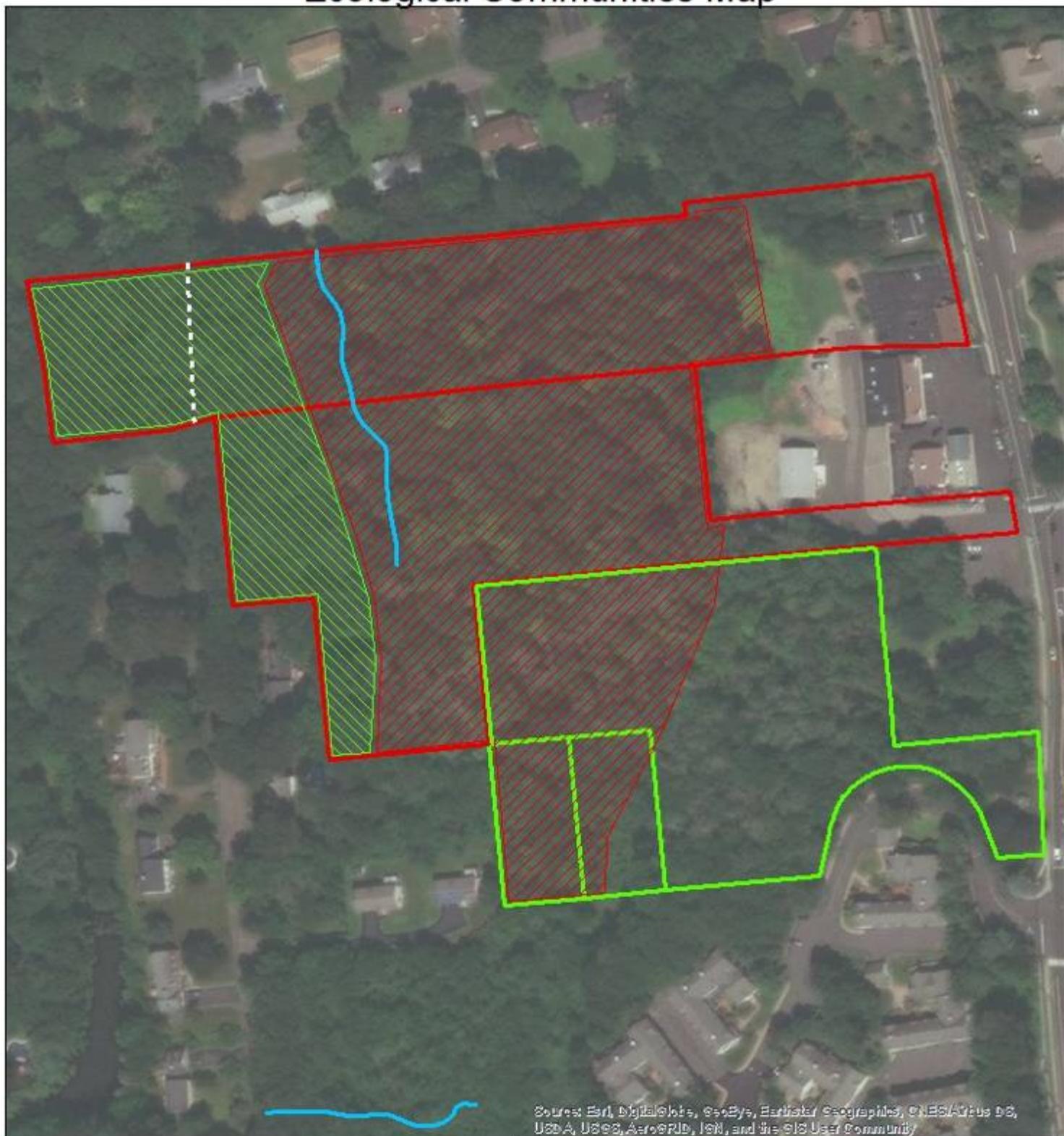
0.1 Miles

1 inch = 156 feet



March 5, 2020

# Temple Street-Main Street Town Owned Parcels Ecological Communities Map



Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Town Owned Parcels 5 acres
Privately Owned Krisak Parcels 10 acres
Red Maple Swamp
Mixed Deciduous Stand



1 inch = 156 feet  
0 0.025 0.05 Miles

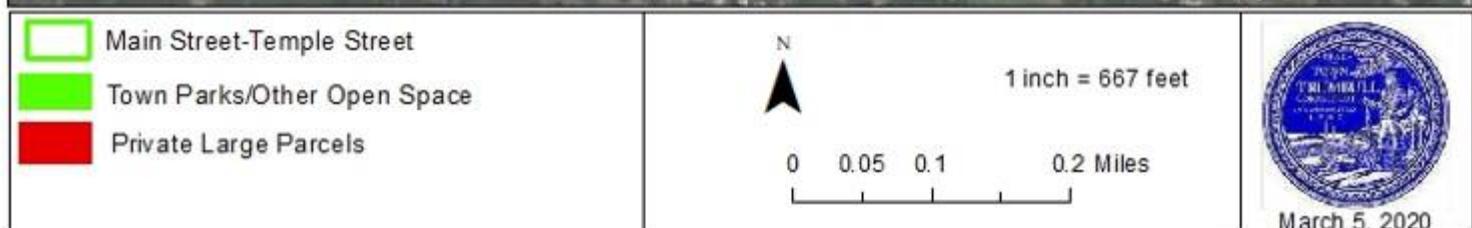


March 5, 2020

# Main Street-Temple Street Surrounding Open Space Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the USGS Open Data.



THREATS:

- Flooding-parcels appear to be FEMA floodplain
- Climate change increasing flooding
- Water/stormwater pollution from nearby roads
- Litter-parcels are litter-free

RECOMMENDATIONS:

- Acquire two Krisak parcels for flood control
- Continue to clean up trash

PLANT INVENTORY MARCH 5, 2020 Field Survey (more species would be observed during the growing seasons):

**Trees:**

*Acer rubrum* (red maple)  
*Acer saccharum* (sugar maple)  
*Betula alleghaniensis* (yellow birch)  
*Betula lenta* (black birch)  
*Carya cordiformis* (bitternut hickory)  
*Carya ovata* (shagbark hickory)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Liriodendron tulipifera* (tulip tree)  
*Nyssa sylvatica* (tupelo)  
*Populus tremuloides* (quaking aspen)  
*Prunus serotina* (black cherry)  
*Quercus alba* (white oak)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Ulmus americana* (American elm)

**Shrubs:**

*Alnus serrulata* (smooth [common] alder)  
*Clethra alnifolia* (pepperbush)  
*Cornus amomum* (silky dogwood)  
*Hamamelis virginiana* (witch hazel)  
*Lindera benzoin* (spicebush)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Sedges & Rushes:**

*Carex stricta* (tussock sedge)

**Ferns and allies:**

*Onoclea sensibilis* (sensitive fern)

## FRIAR LANE

April 7, April 10 2020

### PROPERTY DESCRIPTION:

This 3.4 acre parcel is located along the Trumbull/Shelton border in northeast Trumbull (see Location Map page 567). It was owned by the Trumbull Land Trust and was one of seven properties transferred to the Town of Trumbull in 2011. The parcel is accessible via a strip of town owned land on Friar Lane across from Finchwood Drive, though this is very close to two homes and the neighbors are most likely not aware that the land is open to the public-the neighbor to the north has cleared parts of the Preserve and dumped brush into the stream (see photograph page 2). A trail could be cleared next to the stream which would allow the public to walk the Preserve in all but the wettest seasons.



Preserve sign can be moved closer to street so the public can see it



Access at Friar Lane and Finchwood Drive, now overgrown and partially cleared (without permission) by neighbor

An unnamed tributary flows along the eastern boundary and into the wetland in the center of the parcel (see Streams & Wetlands Map page 571). Neighbor has cut trees and pushed brush onto stream embankment.



Freshly cut trees and brush pushed into stream embankment

The parcel is flat with slightly higher elevations along the western boundary at 350 feet above sea level dropping to 330 feet throughout the rest of the property (see Elevation Map page 569 and Topographic Map page 570). The property is surrounded by dense single-family housing on all sides and is not near any other open space (see Surrounding Open Space Map page 573).



Aerial roots indicate this area is often underwater

The Friar Lane property is entirely wooded (see Satellite Photograph Map page 568 and Ecological Communities Map page 572). The slightly higher and drier western half of the property has medium to large red and black oaks with average diameters of approximately 24 inches. Beech, black birch, shagbark hickory and sassafras grow in the understory along with mountain laurel shrubs. The wetter eastern half of the parcel is a red maple swamp with red maples and ash in the canopy and thick stands of sweet pepperbush in the shrub layer. The ground layer has Christmas fern, Canada mayflower and shinleaf along with greenbriar vines. Skunk cabbage dominates the wetland's ground layer. Many empty cans litter the ground in the center of the preserve.



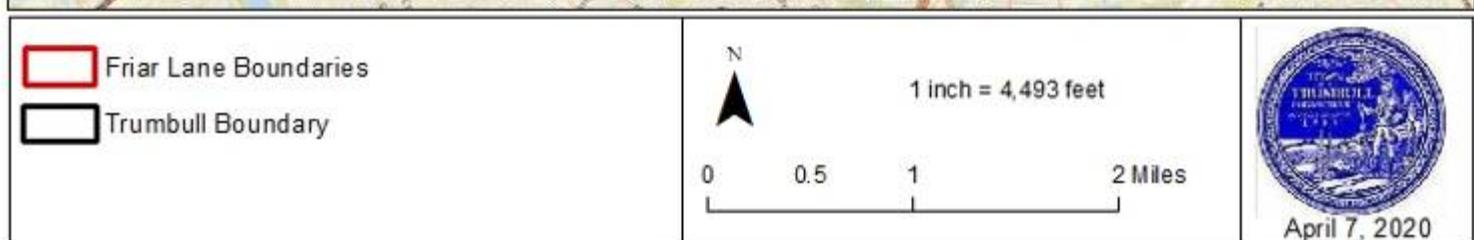
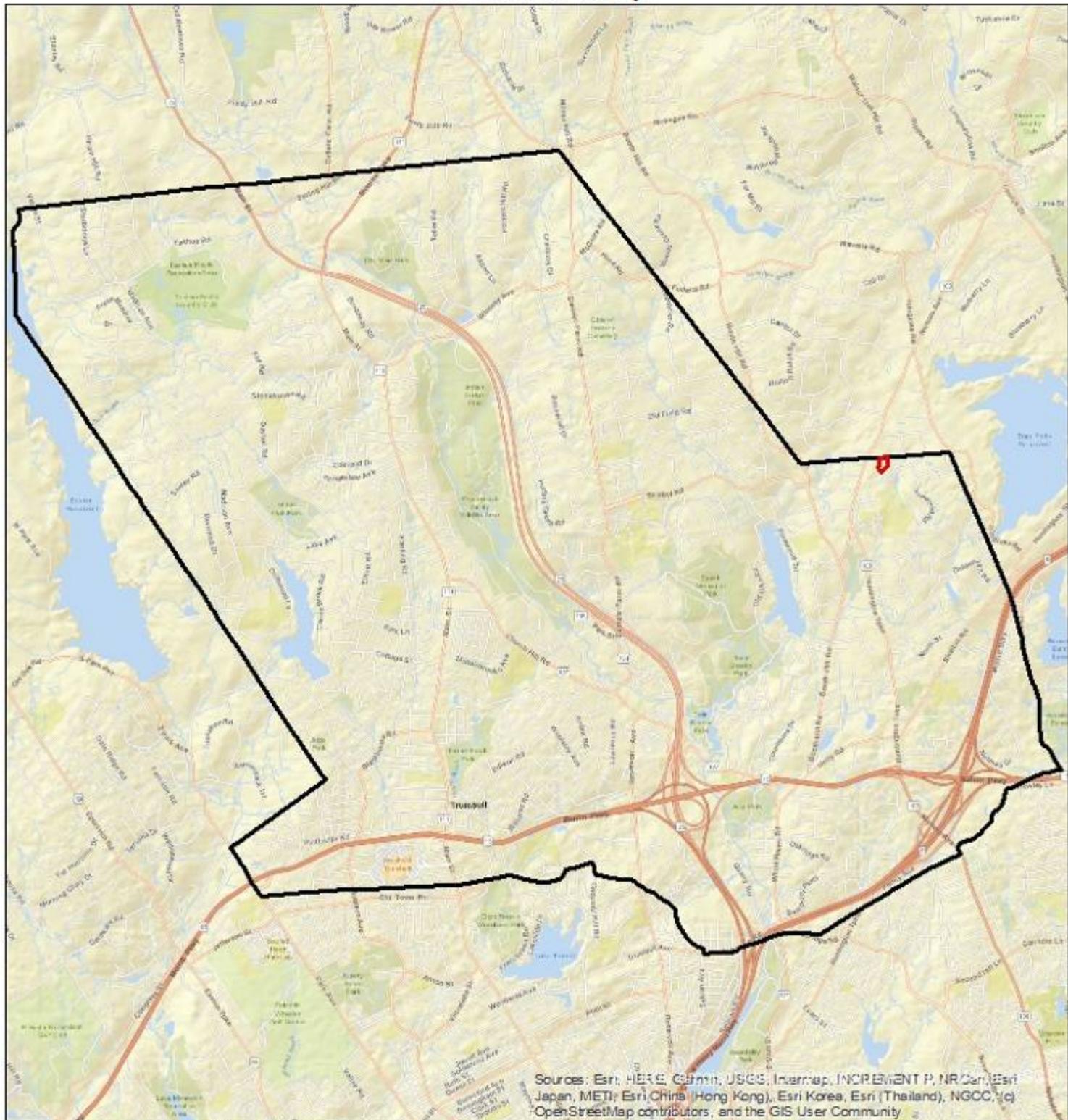
View east into wetland

This parcel can support a short hiking trail for use by neighbors if the access is cleared and a trail maintained. The Preserve sign could be moved closer to the street so that the public knows this is a nature preserve. The parcel also serves to absorb stormwater and provides refuge for the several deer seen here.

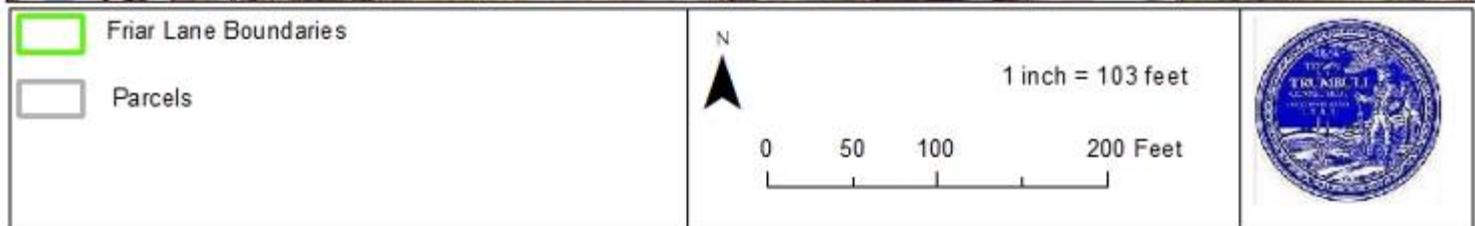
Friar Lane has the following ecological communities (see Ecological Communities Map page 572 and Plant Inventory page 575):

Mixed Deciduous	1.5 acres
Red Maple Swamp	<u>1.5 acres</u>
	3.5 acres

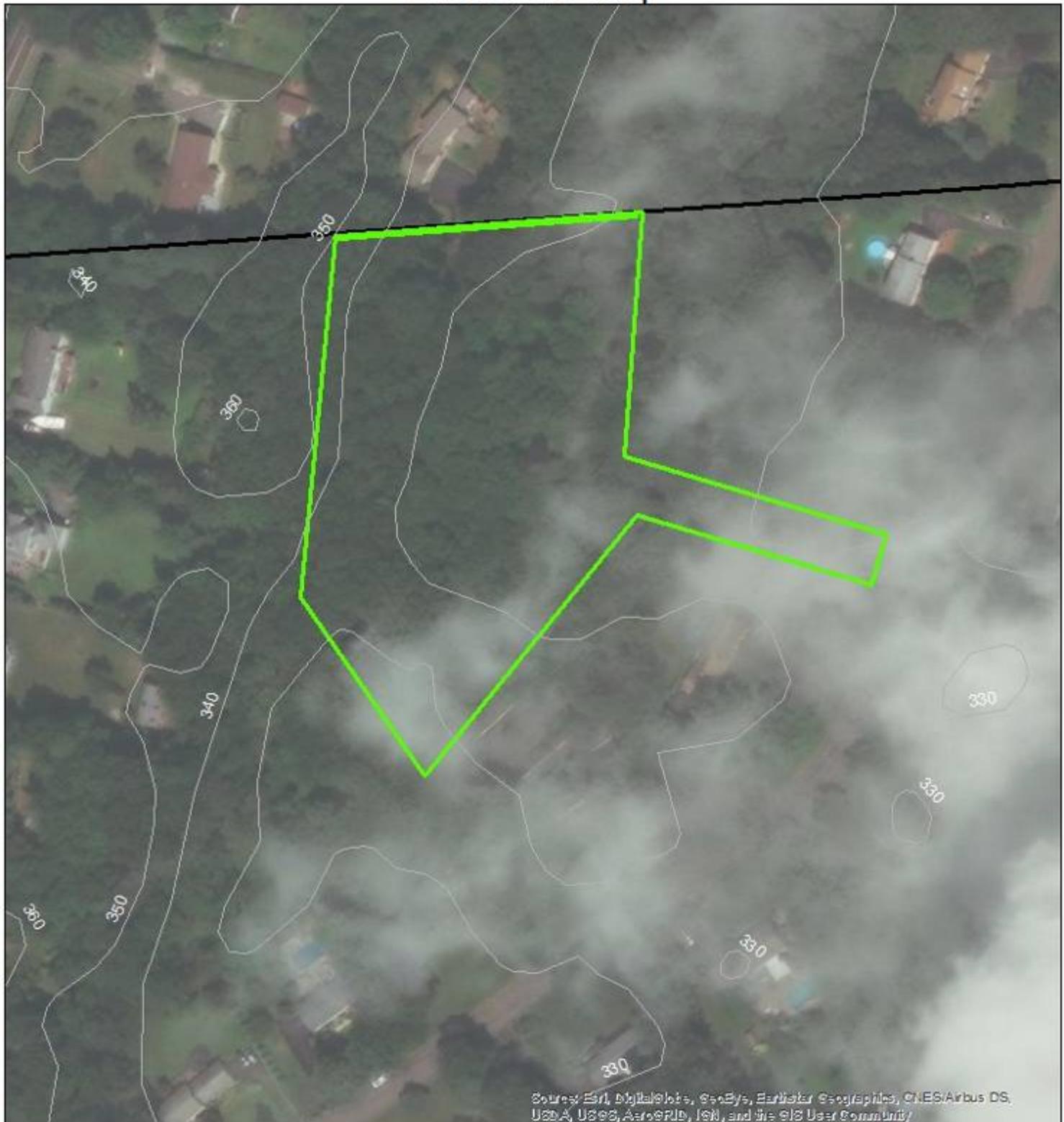
# Friar Lane Location Map



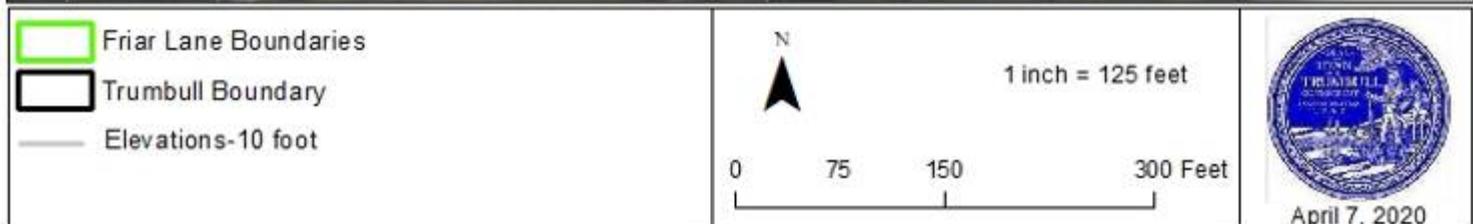
# Friar Lane Satellite Photograph Map



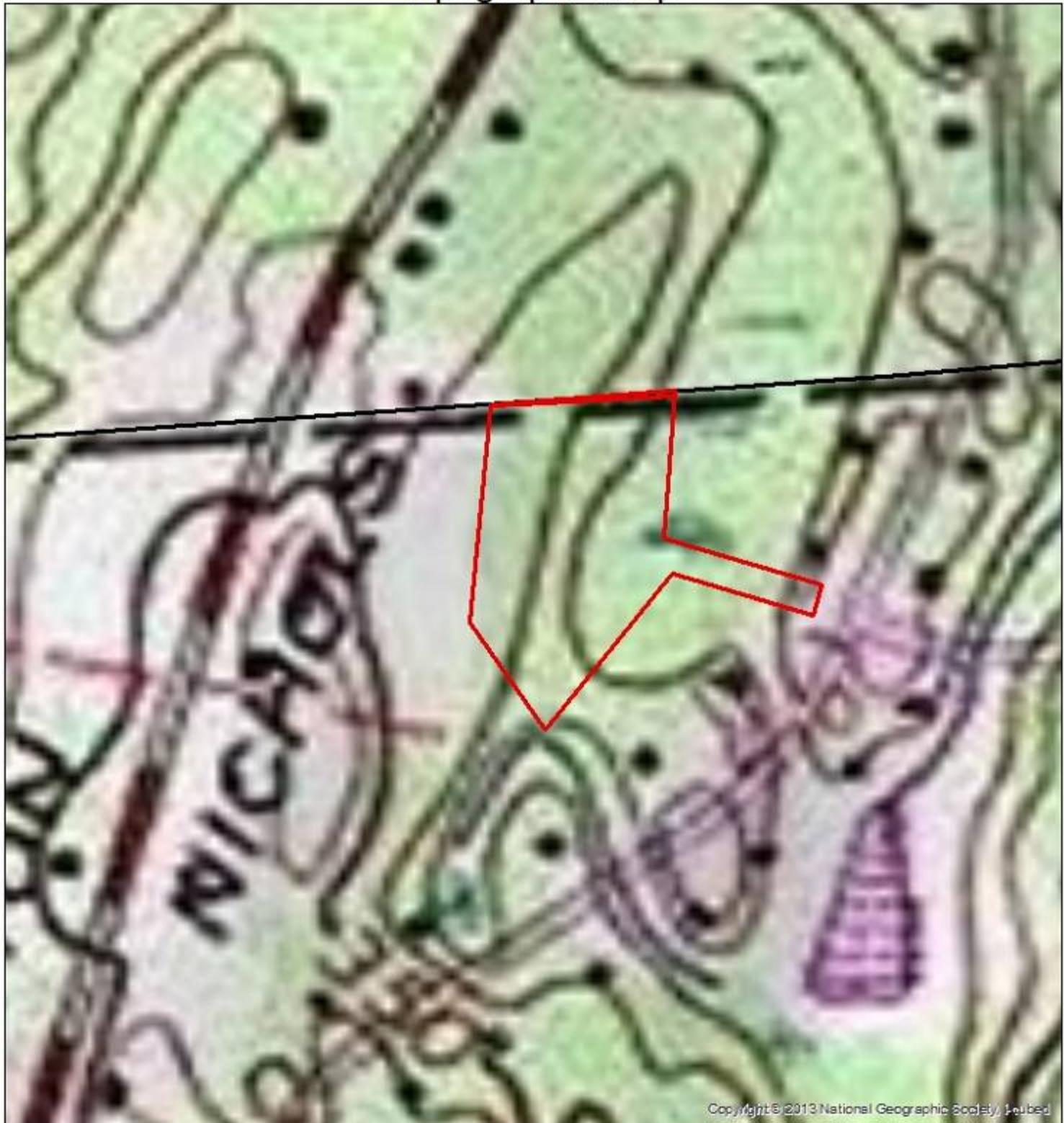
# Friar Lane Elevations Map



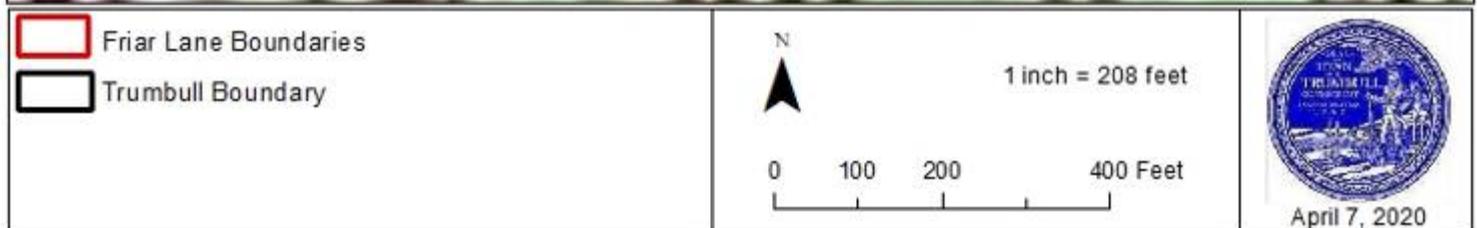
Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



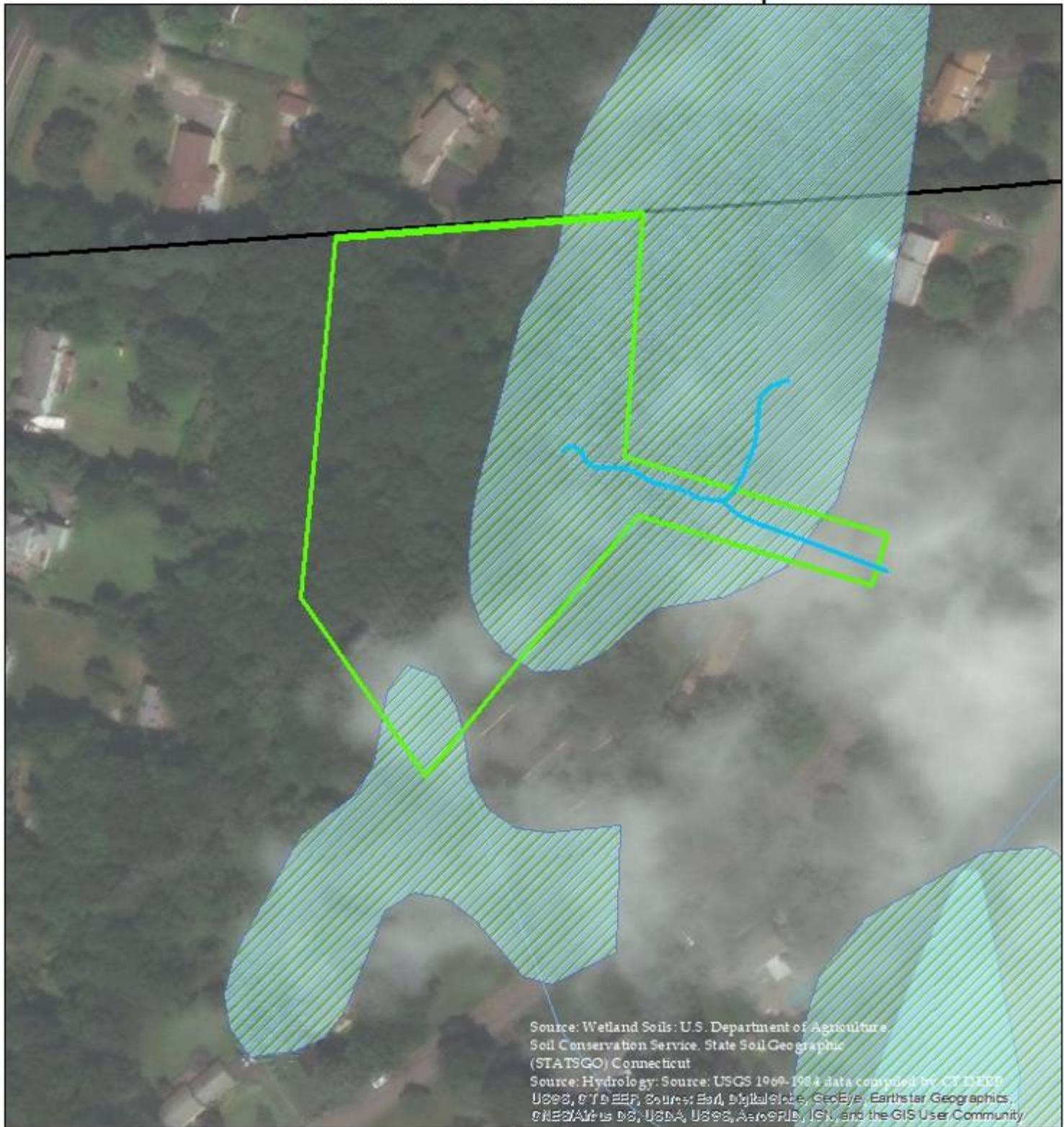
# Friar Lane Topographic Map



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# Friar Lane Streams & Wetland Soils Map



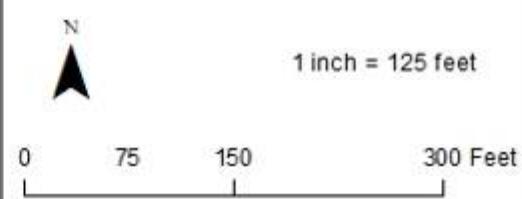
<ul style="list-style-type: none"><li>Friar Lane Boundaries</li><li>Trumbull Boundary</li><li>Wetland Soils</li><li>Streams</li></ul>	<p>N</p> <p>1 inch = 125 feet</p> <p>0 75 150 300 Feet</p>	 <p>April 7, 2020</p>
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# Friar Lane Ecological Communities Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Friar Lane Boundaries	
Trumbull Boundary	
Mixed Deciduous Stand	
Red Maple Swamp	



April 7, 2020

## Friar Lane Surrounding Open Space Map



Trumbull
Friar Lane Boundaries
Other Town Open Space
Town of Shelton Open Space



1 inch = 500 feet  
0 250 500 1,000 Feet



April 7, 2020

THREATS:

- Clearing by neighbors in wetland, dumping of yard waste in stream
- Lack of Land Regulation/Enforcement
- Litter-empty cans lie in the center of parcel

RECOMMENDATIONS:

- Streambank restoration where vegetation has been cleared
- Enforcement on Inland Wetland & Watercourse ordinance
- Post boundaries so neighbors are aware of town property lines
- Trails-create loop trail within Preserve
- Move Preserve sign closer to street to increase visibility
- Clean up trash

PLANT INVENTORY April 7 & April 10, 2020 Field Surveys (more species would be observed during the growing seasons):

**Trees:**

*Acer rubrum* (red maple)  
*Betula lenta* (black birch)  
*Betula populifolia* (gray birch)  
*Fagus grandifolia* (American beech)  
*Fraxinus americana* (white ash)  
*Quercus rubra* (red oak)  
*Quercus velutina* (black oak)  
*Sassafras albidum* (sassafras)

**Shrubs:**

*Clethra alnifolia* (pepperbush)  
*Cornus sericea* (red osier dogwood)  
*Kalmia latifolia* (mountain laurel)

**Herbs:**

*Pyrola elliptica* (shinleaf)  
*Symplocarpus foetidus* (skunk cabbage)

**Vines:**

*Celastrus orbiculatus* (Asiatic bittersweet)  
*Parthenocissus quinquefolia* (Virginia creeper)  
*Smilax rotundifolia* (greenbrier)  
*Toxicodendron radicans* (poison ivy)  
*Vitis* sp. (grape)

**Ferns and allies:**

*Polystichum acrostichoides* (Christmas fern)

LIST OF TOWN PARKS & TOWN OPEN SPACE PROPERTIES











1994 Bird Species within the Pequonnock River Watershed (Confirmed or Probable)  
*The Atlas of Breeding Birds of Connecticut.1994*

2018-2020 eBird Surveys at Pequonnock River Valley State Park, Trumbull Nature and Arts Center, William Wolfe Park, and Twin Brooks Park

Highlighted species were observed in 1994 but not in 2018-2020 in Trumbull

Observed in 1994:

Least Bittern (*Ixobrychus exilis*)  
 Great Blue Heron (*Ardea herodias*)  
 Green Heron (*Butorides virescens*)  
 Canada Goose (*Branta canadensis*)  
 American Black Duck (*Anas rubripes*)  
 Mallard (*Anas platyrhynchos*)

Turkey Vulture (*Cathartes aura*)  
 Red-shouldered Hawk (*Buteo lineatus*)

Broad-winged Hawk (*Buteo platypterus*)  
 Red-tailed Hawk (*Buteo jamaicensis*)  
 American Kestrel (*Falco sparverius*)  
 Ruffed Grouse (*Bonasa umbellus*)  
 Northern Bobwhite (*Colinus virginianus*)  
 Killdeer (*Charadrius vociferous*)  
 Rock Dove (*Columba livia*)  
 Mourning Dove (*Zenaida macroura*)

Barn Owl (*Tyto alba*)  
 Common Nighthawk (*Chordeiles minor*)  
 Chimney Swift (*Chaetura pelagica*)  
 Belted Kingfisher (*Ceryle alcyon*)  
 Red-bellied Woodpecker (*Melanerpes carolinus*)  
 Downy Woodpecker (*Picoides pubescens*)  
 Hairy Woodpecker (*Picoides villosus*)

Northern Flicker (*Colaptes auratus*)  
 Eastern Wood-Pewee (*Contopus virens*)  
 Willow Flycatcher (*Empidonax traillii*)  
 Eastern Phoebe (*Sayornis phoebe*)  
 Great Crested Flycatcher (*Myiarchus crinitus*)  
 Eastern Kingbird (*Tyrannus tyrannus*)  
 Tree Swallow (*Tachycineta bicolor*)  
 Northern Rough-winged Swallow (*Stelgidopteryx serripennis*)  
 Barn Swallow (*Hirundo rustica*)  
 Blue Jay (*Cyanocitta cristata*)  
 American Crow (*Corvus brachyrhynchos*)  
 Fish Crow (*Corvus ossifragus*)  
 Black-capped Chickadee (*Parus atricapillus*)  
 Tufted Titmouse (*Parus bicolor*)  
 White-breasted Nuthatch (*Sitta carolinensis*)

Observed since 1994 Atlas in Trumbull:

Wood Duck (*Aix sponsa*)  
 Great Egret (*Ardea alba*)

Cooper's Hawk (*Accipiter cooperii*)

Barred Owl (*Strix varia*)

Pileated Woodpecker (*Dryocopus pileatus*)

**Brown Creeper (*Certhia americana*)**

Carolina Wren (*Thryothorus ludovicianus*)

House Wren (*Troglodytes aedon*)

Blue-gray Gnatcatcher (*Polioptila caerulea*)

Eastern Bluebird (*Sialia sialis*)

Veery (*Catharus fuscescens*)

Wood Thrush (*Hylocichla mustelina*)

American Robin (*Turdus migratorius*)

Gray Catbird (*Dumetella carolinensis*)

Northern Mockingbird (*Mimus polyglottos*)

**Brown Thrasher (*Toxostoma rufum*)**

Cedar Waxwing (*Bombycilla cedrorum*)

European Starling (*Sturnus vulgaris*)

Yellow-throated Vireo (*Vireo flavifrons*)

Red-eyed Vireo (*Vireo olivaceus*)

Warbling Vireo (*Vireo gilvus*)

Yellow-rumped Warbler (*Setophaga coronata*)

Blue-winged Warbler (*Vermivora pinus*)

Yellow Warbler (*Dendroica petechia*)

Chestnut-sided Warbler (*Dendroica pensylvanica*)

Black-and-white Warbler (*Mniotilla varia*)

American Redstart (*Setophaga ruticilla*)

Worm-eating Warbler (*Helmitheros vermivorus*)

Ovenbird (*Seiurus aurocapillus*)

Louisiana Waterthrush (*Seiurus motacilla*)

Common Yellowthroat (*Geothlypis trichas*)

Scarlet Tanager (*Piranga olivacea*)

Northern Cardinal (*Cardinalis cardinalis*)

Rose-breasted Grosbeak (*Pheucticus ludovicianus*)

**Indigo Bunting (*Passerina cyanea*)**

Rufous-sided Towhee (*Pipilo erythrrophthalmus*)

Chipping Sparrow (*Spizella passerina*)

**Field Sparrow (*Spizella pusilla*)**

Song Sparrow (*Melospiza melodia*)

**Swamp Sparrow (*Melospiza georgiana*)**

White-throated Sparrow (*Zonotrichia albicollis*)

Dark-eyed Junco (*Junco hyemalis*)

**Bobolink (*Dolichonyx oryzivorus*)**

Red-winged Blackbird (*Agelaius phoeniceus*)

**Eastern Meadowlark (*Sturnella magna*)**

Common Grackle (*Quiscalus quiscula*)

Brown-headed Cowbird (*Molothrus ater*)

Northern Oriole (*Icterus galbula*)

House Finch (*Carpodacus mexicanus*)

American Goldfinch (*Carduelis tristis*)

House Sparrow (*Passer domesticus*)

Table 4-5. Amphibians and Reptiles within the Pequonnock River Watershed

Amphibians	Reptiles
<u>Caudata</u>	<u>Testudinata</u>
<i>Ambystoma cf. jeffersonianum</i>	<i>Chelydra serpentina</i>
<i>Ambystoma maculatum</i>	<i>Chrysemys picta</i>
<i>Ambystoma opacum</i>	<i>Clemmys guttata</i>
<i>Desmognathus fuscus</i>	<i>Clemmys insculpta</i>
<i>Eurycea bislineata</i>	<i>Terrapene carolina</i>
<i>Hemidactylum scutatum</i>	<i>Trachemys scripta</i>
<i>Plethodon cinereus</i>	
<i>Notophthalmus viridescens</i>	

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Table 4-5. Amphibians and Reptiles within the Pequonnock River Watershed

Amphibians	Reptiles
<u>Anura</u>	<u>Squamata</u>
<i>Bufo americanus</i>	<i>Carpophis amoenus</i>
<i>Hyla versicolor</i>	<i>Diadophis punctatus</i>
<i>Pseudacris crucifer</i>	<i>Heterodon platirhinos</i>
<i>Rana catesbeiana</i>	<i>Lampropeltis triangulum</i>
<i>Rana clamitans</i>	<i>Nerodia sipedon</i>
<i>Rana palustris</i>	<i>Opheodrys vernalis</i>
<i>Ratio sylvatica</i>	<i>Storeria dekayi</i>
	<i>Thamnophis sirtalis</i>
	<i>Agkistrodon contortrix</i>

## SOURCES

Baseline Watershed Assessment. Pequonnock River Watershed. Fuss & O'Neill. 2010

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Base Maps:  
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## STATEMENT OF QUALIFICATIONS

Jim Nordgren has completed open space plans, natural resource inventories, baseline documentation reports and management plans for Open Space Institute, Scenic Hudson, Northeast Wilderness Trust, LandVest, Watershed Agricultural Council, North Salem Open Land Foundation, Orange County Land Trust, Pound Ridge Land Conservancy, Putnam County Land Trust, Lewisboro Land Trust, Westchester Land Trust, Roundout-Esopus Land Conservancy, Oblong Land Conservancy, Weantinoge Heritage Land Trust, Sisters of Hope, Ossining, Storm King Art Center, John Hay Homestead, Town of Lewisboro, Town/Village of Mount Kisco and Town of Castine, Maine. He is proficient in GPS and GIS technology. He has researched, drafted and signed purchase option agreements, buy/sell agreements, conservation easements and fee purchase agreements for the Northeast Wilderness Trust and the Westchester Land Trust. He successfully applied for Land Trust Alliance Accreditation for the Northeast Wilderness Trust. Mr. Nordgren earned an M.B.A from the Wharton School and a Masters in Environmental Management at the Yale School of Environmental Studies & Forestry. He is a qualified Watershed Forester for the New York Watershed Agricultural Council, served on the Lewisboro Planning Board from 1994 to 2003 and served as Lewisboro Town Supervisor.