



# Town of Ulysses Natural Resources Inventory

Compiled by  
Cornell Cooperative Extension  
of Tompkins County



# ACKNOWLEDGEMENTS

This natural resource inventory is a Ulysses-specific, adapted, revised, and updated version of the [Tompkins County Natural Resources Inventory](#) (2001) with new sections added, used with permission from the Tompkins County Planning Department. The inventory was prepared by Skye Hart (Clean Energy Communities Planning Assistant, Cornell Cooperative Extension of Tompkins County) in conjunction with Kristen Hychka (Research Specialist, Syracuse University Center for Sustainable Community Solutions/Environmental Finance Center), Terry Carroll (Southern Tier NYSERDA Clean Energy Communities Coordinator, Cornell Cooperative Extension of Tompkins County), and Darby Kiley (Environmental Planner, Town of Ulysses). Feedback and proposed edits were provided by the Town of Ulysses Conservation and Sustainability Advisory Committee. The data used in this natural resource inventory was the most up-to-date information available as of fall of 2017, and much of it was provided by the Tompkins County GIS Division. Maps were prepared by Skye Hart, and the layout was created by Lois Nguyen (Graphic Design Intern, Cornell Cooperative Extension of Tompkins County).



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# INTRODUCTION

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## What are Natural Resources in the Town of Ulysses?

The Town of Ulysses, located in the northwest corner of Tompkins County, encompasses 36.84 square miles, 32.98 square miles of land and 3.98 square miles of water covering a small portion of Cayuga Lake. The Village of Trumansburg is located within the Town, encompassing 1.2 square miles of land in the northwest corner of the town. This area is home to many important natural resources. Protecting and maintaining natural resources is important not only because of the intrinsic value of these resources but also because of their varied ecological functions that support all life. For example, keeping water clean is valuable as it supports aquatic life as well as other life that accesses the water, including humans, and water bodies can influence important abiotic factors of ecosystems such as soils. Natural resources also support a variety of recreational activities such as bird watching, hiking, fishing, boating, and simply enjoying the beauty of the town. Not only do these recreational activities make the Town of Ulysses a great place to live, but they also attract tourists from around the world who want to experience the beauty of state parks such as Taughannock Falls and the Black Diamond Trail. This ecotourism is a valuable contributor to the local economy of the Town. In addition, Ulysses' natural resources support an active agriculture sector, which is a foundation of the local economy

## What is a Natural Resource Inventory?

A natural resource inventory is a document that inventories the natural resources of an area, collects the data in a usable format and interprets the findings. The primary purpose of this natural resource inventory is to provide data that can form a basis for municipal planning in the preparation of plans, review of proposed development plans, and completion of environmental assessment forms. It also serves as an informational document for those looking to learn more about the natural environment of Ulysses as it clarifies information such as the location of prime agricultural soils (which includes most of the Town) and where the Town's steepest slopes are.

The creation of this natural resource inventory also supports several of the objectives set forth in the Town of Ulysses' 2009 Comprehensive Plan. These objectives are as follows:

- 1.1: Preserve and protect the Town's natural and environmental resources.
- 1.2: Protect existing water resources and maintain water quality.
- 2.1: Provide a high quality of life for all residents through proactive planning that supports the goals of the local community, complements the existing rural character of the Town, and protects the value of natural and environmental resources.
- 2.6: Preserve and protect the Town's rural characteristics and agricultural lands.
- 5.2: Enhance the assets that make the Town of Ulysses a unique and desirable place to live while solidifying the identity of the Town as a part of the greater Finger Lakes region.

## Why Should Natural Resources be Protected?

Protecting environmental quality is a matter of choices and tradeoffs. As Tompkins County as a whole becomes more developed, the Town faces increasing pressures to allow the development of homes, commercial properties, and new roads. There may be negative consequences from this pressure, including wildlife displacement, loss of recreation corridors and scenic vistas, surface and groundwater contamination, increased pervasiveness of invasive species, and increased ero-



Since much development is irreversible, planning is very important. Long-term planning is one way to minimize the short-term exploitation of the resource base that results from “quick fixes” to localized problems and from competition for resources. Planning at the local, regional, and state levels provides individual municipalities with a rational system for guiding development with respect to the distribution and value of natural resources.

## How Can Natural Resources be Protected?

This natural resource inventory identifies many of the natural resources within the Town. This is the first step in protecting those resources. Private landowners, government agencies, and conservation organizations can use this knowledge to protect the most important of these resources.

There are several major approaches to protecting natural resources. The following is a list of some of the types of options currently used in Tompkins County.

### Non-Regulatory Tools

#### Acquisition

Acquisition with the goal of resource preservation is the surest way of protecting natural resources. Acquiring title and all rights to land through purchase (fee simple acquisition) allows the organization or individual acquiring the property full authority (within the bounds of laws and regulations) over the future use and management of the property’s resources. Local governments and private conservation organizations, like land trusts, are those most likely to use this technique. In addition, some landowners choose to donate their land to these organizations, rather than selling the property.

Less than fee-simple acquisition is a more common technique used to protect natural resources. The acquisition of conservation easements (through purchase or donation from a willing seller) is used by land trusts and municipalities to restrict the type and amount of development permitted on a particular parcel of land. The Purchase of Development Rights on agricultural lands is an example of a conservation easement program.

#### Informal Designations

Planning efforts can raise local awareness of the value and location of important natural resources. Goals for protecting natural resources can be defined in a community’s comprehensive plan. Natural resource protection can also be addressed in open space and recreation plans or in plans for a particular resource, such as a watershed protection plan.

The identification and designation of particularly important natural resources can help preserve them by educating the local population on the resources’ importance. One example of this type of effort is the work done by the Tompkins County Environmental Management Council to identify and describe the Unique Natural Areas in the County. Although this designation carries no regulatory authority, many state and local agencies and organizations use the Unique Natural Areas Inventory of Tompkins County to assist in the review of development proposals and in the preparation of environmental review documents.

Another example is the State’s Agricultural District program. Once a county designates land as being in an agricultural district, state protections for the operation of farms are triggered, making it easier to protect those agricultural resources.

### Educational Programs

Natural resource education programs are another way to help raise awareness of the importance of natural resources and interest in protecting those resources. Local examples include the Cayuga Nature Center’s series of programs for children and adults and those of the Cayuga Lake Floating Classroom.

### Regulatory Tools

There are also many regulatory tools available to local municipalities to help protect natural resources. Communities can adopt zoning and subdivision regulations that provide for the protection of natural resources. Not all of these tools may match the Town’s current goals or capacity.

These specific regulatory techniques for protecting resources include:

- Zoning and Subdivision Ordinances – used to protect the public health, safety, and general welfare.
- Local Wetlands Ordinances – regulate disturbance of wetlands beyond those covered under state and federal laws, such as small or isolated wetlands, and can add additional requirements for activities adjacent to wetlands.
- Buffer Requirements – establish minimum distances between a development and a selected natural feature.
- Clustering Requirements – place residential units on a portion of a site to protect a contiguous area of open space or unique feature.
- Performance Zoning – unlike traditional zoning, performance zoning determines whether a land use is permitted based on an assessment of potential impacts.
- Preservation Overlay Zones – geographic areas where more restrictive development regulations are enforced to protect valued natural resources.
- Park Dedications – require developers to contribute land, or cash in lieu of land, to provide for the open space and recreation needs of the subdivision’s residents.
- Transfer of Development Rights – landowners in designated preservation areas may sell development rights to allow increased density in other areas of the community.
- Purchase of Development Rights – landowners in designated preservation areas may sell development rights for cash to a government or appropriate organization.
- Environmental Quality Zones – require that development in certain areas meet specific thresholds for environmental impacts, such as mitigating a set percentage of wetland losses.

### About the Organization of this Natural Resources Inventory

The Town of Ulysses’ Natural Resource Inventory begins with a summary of climate conditions and projections for the Town. The rest of the inventory is organized into three resource categories: hydrology, geology and soils, and land use and protected lands.



## About the Data

Many of these data sets can be downloaded directly from the Cornell University Geographic Information Repository website (<http://cugir.mannlib.cornell.edu/>) and the New York State GIS Clearinghouse website (<http://gis.ny.gov/>). Some of these digital data sets can be purchased from the United States Geological Survey or the NYS Department of Environmental Conservation or downloaded from their websites. Some data sets have limitations and none of them are guaranteed by their originators to be free of errors. Many are not intended to be used to review individual parcels, but are appropriate for larger-scale planning efforts. The Tompkins County GIS Division provided many of the GIS data sets necessary to produce this inventory. **All maps in this inventory are at a scale of 1:65,000, with the exception of the map on the following page, which is produced at a scale of 1:225,000 and shows the Town of Ulysses' location within Tompkins County.** The Village of Trumansburg is outlined in red in the maps throughout this document.

## LOCATION WITHIN TOMPKINS COUNTY

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### Location Within Tompkins County



Town of Ulysses  
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# CLIMATE CONDITIONS AND PROJECTIONS

## What is Climate Change?

Climate change refers to a change in typical or average weather in a region. Climate change has always been naturally occurring. However, human actions can also influence climate change, and since the mid-20th century, climate change has been occurring globally at an accelerated pace because of anthropogenic causes. The burning of fossil fuels (e.g. coal, oil, natural gas) is largely responsible for rapidly changing climate conditions since these fuels emit greenhouse gases that trap heat in the Earth's atmosphere. This results in changes to the average temperature and precipitation of regional climates around the world.

## Why is Understanding Climate Change Important?

The changing climate is causing sea levels to rise as glaciers and polar ice melt, growing seasons to change as precipitation patterns and temperatures change, and an increase in heat waves, droughts, and floods. This already impacts how and where we live, from farmers growing different crops to people leaving their no-longer-inhabitable homes. In addition, warmer temperatures can have adverse effects on health by increasing plants' pollen production and the formation of ground-level ozone, which in turn can worsen respiratory conditions such as asthma and allergies, and by creating a more hospitable environment for disease-carrying insects such as mosquitoes and ticks.

## Climate Conditions and Projections in Ulysses

New York State has a humid continental climate with an average temperature of 47.5°F and an average annual precipitation of 35 inches in the Southern Tier, where Ulysses is located. The following table (Table 1) shows the predicted future changes in annual temperature, precipitation, and severe weather events in the Southern Tier.

Table 1: Baseline and Projected Changes in Climate Conditions and Severe Weather Events in the Southern Tier

	Baseline	2020s	2050s	2080s
Temperature	47.5°F	+1.8 to 3.8°F	+3.6 to 7.1°F	+4.2 to 11.6°F
Precipitation	35 inches	-4 to +9%	+2 to +15%	+3 to +16%
<b># of days per year with maximum temperature exceeding</b>				
90°F	10	15 to 23	22 to 47	28 to 79
95°F	1	2 to 7	2 to 18	4 to 38
<b>Heatwaves</b>				
# per year	1	2 to 3	3 to 6	3 to 9
Average duration (days)	4	4 to 5	5	5 to 7
<b># of days per year with temperatures at or below freezing (32°F)</b>				
	152	119 to 134	94 to 120	72 to 116
<b># of days per year with rainfall exceeding</b>				
1 inch	6	6 to 7	6 to 8	6 to 8
2 inches	0.6	0.6 to 1	0.7 to 1	0.7 to 1
<i>Source: NYSDEC, Observed and Projected Climate Change in New York State: An Overview (2015); baseline data is 1971-2000 NOAA data</i>				

The State's changing climate will negatively impact human health, the economy, and the environment. Warmer temperatures could hurt local economies by adversely affecting the ability to create maple syrup, grow apples, produce dairy, and participate in other agricultural activities. Extremely warm temperatures that occur as heat waves (defined as three or more consecutive days with maximum temperatures above 90°F) are a potentially deadly health hazard. These hotter temperatures in the summertime could also impact ecotourism. In addition, both more frequent droughts and increased precipitation are predicted. Droughts hinder agricultural production and impact overall water use, while long, heavy rains will increase the chances of flash flooding and erosion, which can damage buildings, infrastructure, agriculture, and undeveloped lands. Lastly, the changing climate will permit the expansion of parasites such as ticks, which can carry Lyme disease, and invasive species, some of which are harmful to native species, ecosystems, and people.

### Addressing Climate Change

To avoid facing the worst of these climate change projections, we can take measures to address climate change. These measures fall into two categories: mitigation and adaptation. Mitigation refers to the reduction of greenhouse gas emissions, while adaptation refers to changing our practices to match new or inevitable climate conditions. Examples of mitigation strategies include reducing energy use by taking actions such as turning off electronics when they are not in use or switching to energy efficient LED lightbulbs; switching to renewable energy sources such as solar or hydro power; reforestation to sustainably capture carbon dioxide emissions; and taking the bus, walking, biking, or carpooling instead of driving. Examples of adaptation strategies include relocating facilities away from areas prone to flooding, creating cooling centers for people to take shelter in on extremely hot days, and reducing water use during droughts.

Using a combination of mitigation and adaptation strategies at the individual, institutional, and municipal levels is important. Climate change cannot be prevented even if humans were to cease greenhouse gas emissions as the greenhouse gases currently in the atmosphere will remain there for decades or even centuries. Therefore, adaptation to a different climate is necessary. However, we can avoid experiencing the worst of the projections by reducing greenhouse gas emissions through mitigation strategies so that existing issues will not be exacerbated.

### Resources and References

National Aeronautics and Space Administration (NASA), What Are Climate and Climate Change? <https://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what-is-climate-change-58.html>

New York State Department of Environmental Conservation  
Observed and Projected Climate Change in New York State: An Overview (2015). [http://www.dec.ny.gov/docs/administration\\_pdf/climbkgncrra.pdf](http://www.dec.ny.gov/docs/administration_pdf/climbkgncrra.pdf)  
Climate Change, <http://www.dec.ny.gov/energy/44992.html>





# Section 1: Hydrology

# WATER BODIES

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## Why Are Water Bodies Important?

Tompkins County is dominated by significant water bodies (lakes, ponds, rivers, and streams) that are critical to public health and the economic and environmental wellbeing of this area. In Ulysses, these water bodies include Cayuga Lake, Taughannock Creek, Taughannock Falls, Willow Creek, Glenwood Creek, and several other tributary creeks leading into Cayuga Lake. Ulysses' economic and environmental activities dependent on the integrity of local water bodies and water supplies include tourism, agriculture, recreation, and real estate.

Although water bodies and water supplies are abundant in Ulysses, certain activities can adversely affect the ecological balance within water bodies, impairing their current and potential economic and environmental functions. Threats to local water supplies include both point source pollution (originating from a single source, often as a pipe draining into a water body) and nonpoint source pollution (originating from multiple sources including: runoff from construction, agriculture, parking lots, and streets; on-site wastewater systems; and commercial and residential activities).

## How Are Water Bodies Regulated?

Federal and state agencies, such as the New York State Department of Environmental Conservation (DEC) and United States Army Corps of Engineers (Army Corps), require permits for activities that might affect or disturb a water body and/or its banks. The stringency of these permits corresponds with the DEC classification assigned to the water body (see Table 2) and may range from a general, or unified, permit to a permit tailored to the specific site and type of work conducted. Regulated activities might include streambank maintenance, construction, flood protection and mitigation, dredging, placing fill, and certain agricultural practices.

Commercial, industrial, and agricultural activities that discharge to a water body require a State Pollution Discharge Elimination System (SPDES) permit. This permit is required for a broad range of activities, including the discharge of wastewater, stormwater, or chemical and thermal emissions from municipal treatment plants, industrial plants, utilities, large subdivisions, apartment complexes, and confined animal feeding operations.

Prior to conducting stream-related work or discharging wastewater, the Region 7 Office of the DEC or the Army Corps Buffalo District should be contacted to obtain the necessary approvals and permits. Each of these agencies will automatically forward permit applications to the other, and each agency will contact the applicant if additional permits and/or paperwork are needed.

## How Are Water Bodies Classified?

The DEC has assigned most water bodies within the state a letter based on their existing or expected "best use." The most pristine waters are assigned a classification of AA, while the most degraded waters are assigned a classification of D. Table 2 details these classifications.



Table 2: NYSDEC Classifications of Fresh Surface Waters

	Best Use
AA	Drinking (after chlorination)
A	Drinking (after chlorination and filtration)
B	Bathing
C (T)	Fishing (trout)
C	Fishing
D	Secondary contact recreation

*Source: New York State Department of Environmental Conservation*

Additional classifications of “T” or “TS” can be added if a water body has sufficient amounts of dissolved oxygen to support trout and trout spawning. Water bodies that are designated as “C (T)” or higher (i.e., “C (TS)”, “B”, or “A”) are collectively referred to as “protected streams” and are subject to additional regulations.

### Water Bodies in Ulysses

Any stream classified as AA, A, or B, or C with a standard of T or TS is considered to be a protected stream. All streams and creeks in Ulysses are classified as C or better, and a few are classified highly enough to be designated as protected streams due to their importance as drinking water supplies or fish habitat. A NYS Protection of Waters Permit is necessary for the disturbance of the bed or banks of a protected stream and for the excavation of or the placement of fill in protected streams and their adjacent and contiguous marshes and wetlands. Table 3 lists the classifications of some of the major water bodies in Ulysses.

Table 3: Ulysses Water Bodies Classifications

	Classification
Cayuga Lake	AA (T), A (T), A depending on location; B (T) at northern end/outlet
Trumansburg Creek	C
Taughannock Creek	B (T)
Willow Creek	C
Glenwood Creek	C

*Source: New York State Department of Environmental Conservation Environmental Resource Mapper*

Fish resources are a key factor in determining water body classifications because they are high on the food chain in aquatic habitats. As such, fish can be used as an indicator of the overall quality of an aquatic ecosystem. Some fish are highly vulnerable, both directly and indirectly, to changes in their environment. They can be directly affected by physical and chemical changes in the water and indirectly affected when changes in the environment affect their food sources or the temperature and turbidity of their habitat.

The most dominant natural feature of Ulysses is Cayuga Lake. Cayuga Lake is located in a glacial valley with steep slopes along the lakeshore punctuated by many picturesque gorges. Wall eleva-



tions in the gorges can reach 300 feet. The higher elevations of the lake's tributaries, combined with the steep gorges, produce numerous waterfalls. All of the land in Ulysses ultimately drains into Cayuga Lake, and the water flows north, eventually reaching Lake Ontario.

Cayuga Lake has served an important economic role in Tompkins County. In the 19th Century, Cayuga Lake was an important link in the transportation route connecting central and southern New York to Buffalo and points west. Today, it serves as a supply for public drinking water and as a major regional recreational resource.

### Maps and Data

The map on page 13 shows permanent streams and their protection status in the Town of Ulysses. These streams flow year-round. Other maps in this document show intermittent (or seasonal) streams, which only flow when they receive water from upstream, groundwater, and/or precipitation. The data for this map comes from the New York State GIS Clearinghouse dataset entitled "[Water Quality Classifications - NYS](#)," last revised in May 2017.

### Resources and References

Army Corps of Engineers, Buffalo District, <http://www.lrb.usace.army.mil/>

New York State Department of Environmental Conservation

DEC Regulations, Chapter X: Division of Water, <http://www.dec.ny.gov/regs/2485.html>

Protection of Waters: Disturbance of the Bed or Banks of a Protected Stream or Other Water course, <http://www.dec.ny.gov/permits/6554.html>

New York State GIS Clearinghouse, <http://gis.ny.gov/>

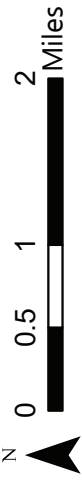
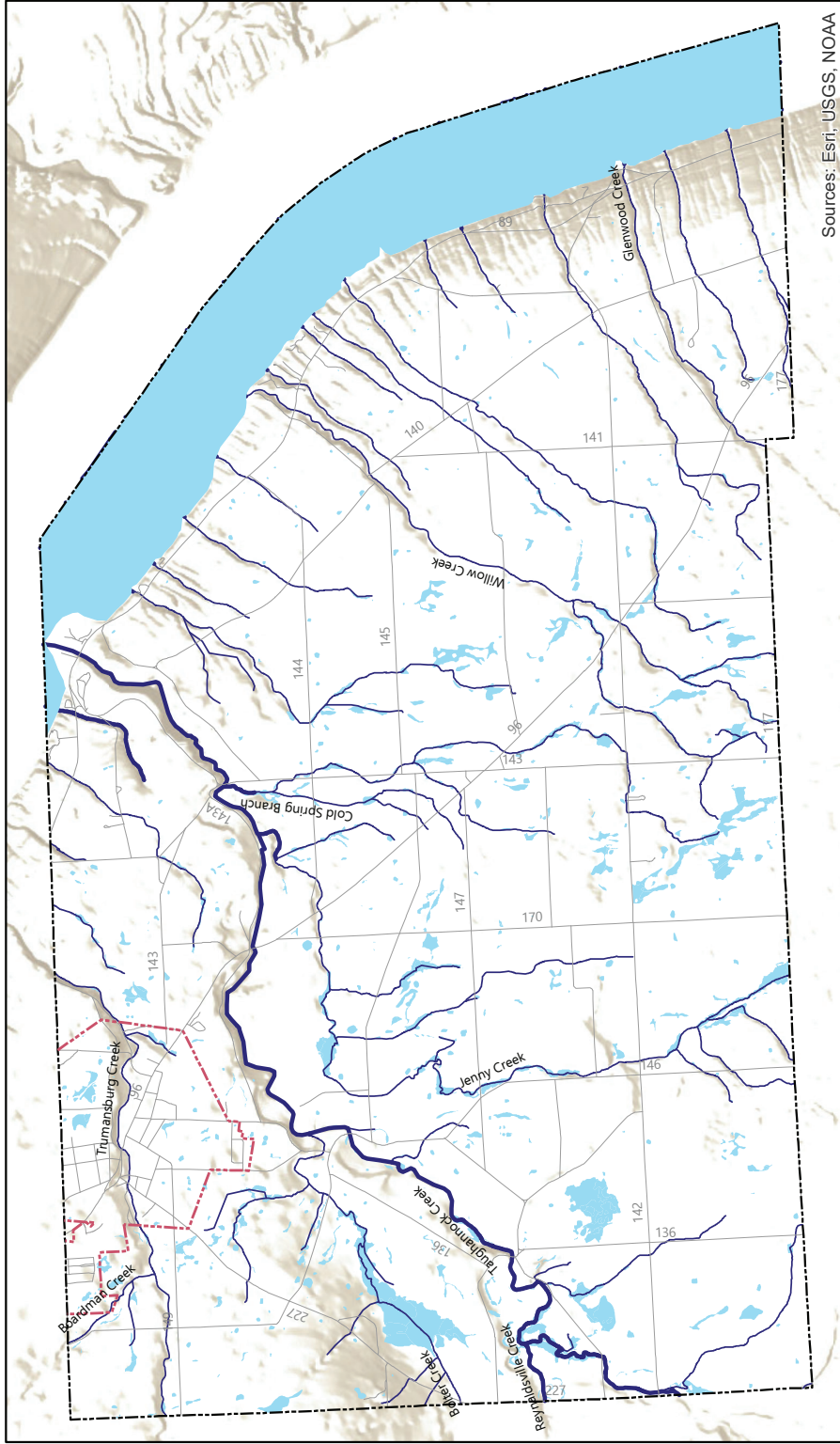
Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>

Tompkins County Soil and Water Conservation District, <http://www.tompkinscountyny.gov/swcd>

United States Environmental Protection Agency, "Streams," <https://archive.epa.gov/water/archive/web/html/streams.html>

# Permanent Streams



- Protected
- Not Protected

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# WATER SHEDS

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## What Is a Watershed?

A watershed is the land area that contributes water to a given point, such as a stream or lake. Contributing sources of water for a watershed include (but are not limited to) springs, streams, seeps, ditches, culverts, marshes, wetlands, swamps, and ponds. Eventually, all surface water, some groundwater resources, and precipitation falling within a watershed drain into a single receiving water body such as a stream, river, lake, or wetland.

Watersheds exist at various scales within a hierarchical structure. Gullies and ravines trickle into streams, which in turn feed into larger streams or rivers. Each of these water bodies (gully, ravine, stream, etc.) drains its own particular watershed so that larger watersheds are comprised of several smaller watersheds. For example, the Bolter Creek watershed flows into the Taughannock Creek watershed, which is contained within the larger Cayuga Lake watershed. While the term watershed is often used interchangeably with “drainage basin”, the term drainage basin usually refers to a larger watershed such as the Susquehanna River Drainage Basin or the Lake Ontario Drainage Basin.

## Why Are Watersheds Important?

Land use throughout a watershed (or the commercial, industrial, agricultural, and/or residential activities a land area can support) and the availability of reliable water sources within a watershed are directly related. That is, the land use in a particular area is often determined by the availability of reliable water supplies, and land use is a key determinant of the quality, quantity, and availability of local water resources. Because of this dynamic relationship between water and land use, the characteristics of the entire watershed must be considered when addressing water quality and water quantity issues, including such factors as the amount of impervious surface and effectiveness of local land management practices.

Additionally, the critical influence and impact of water on important ecological and economic systems (such as provision of drinking water, flooding, recreation, and future economic growth) make watersheds increasingly common management and planning units.

## Are Watersheds Regulated?

Although there are no regulations associated with a watershed, state and federal agencies look favorably on water-related management and planning processes that utilize the principles and concepts of watershed management.

## Watersheds in Ulysses

Ulysses contains three main watersheds: the Taughannock Creek Watershed, the West Cayuga Lakeshore North Watershed, and the West Cayuga Lakeshore South Watershed. These watersheds, and all of the land within Ulysses, drains into Cayuga Lake, then the Oswego River, which drains north to Lake Ontario. Table 4 provides more information on the watersheds in Ulysses.



Table 4: Watersheds in Ulysses

	<b>Acres</b>	<b>Sq. Miles (approx.)</b>	<b>Drainage Basin</b>
Taughannock Creek	14,185	22	Oswego
West Cayuga Lakeshore North	2,794	4	Oswego
West Cayuga Lakeshore South	13,637	21	Oswego

*Source: Tompkins County Planning Department*

The topography of the watersheds was formed as the land began uplifting approximately 200 million years ago. At that time, drainage flowed to the south through the Susquehanna River system. During the Ice Age, two glacial events produced the deep gorges that became the Finger Lakes. The retreat of the second glacier resulted in the reversal of drainage in the watershed from the south to the north and also created the relatively flat land in Ulysses.

### Map and Data

The map on page 16 shows the three watersheds in the Town of Ulysses. This map shows both permanent and intermittent streams. The data for this map was provided by the Tompkins County GIS Division. A similar dataset is available from the Cornell University Geospatial Information Repository (CUGIR) under the name “[Watersheds, Tompkins County NY, 1991](#),” created in 1991.

### Resources and References

Cayuga Lake Watershed Intermunicipal Organization, <http://www.cayugawatershed.org/>

Cayuga Lake Watershed Network, <http://www.cayugalake.org/>

Cornell Cooperative Extension of Dutchess County, Natural Resources, <http://ccedutchess.org/environment/natural-resources>

Cornell University Geospatial Information Repository (CUGIR), <https://cugir.library.cornell.edu/>

Dutchess County Department of Planning and Development, “Chapter 5: Water Resources of Dutchess County, NY,” Natural Resources Inventory, 2010 (originally published in 1985), <http://www.co.dutchess.ny.us/CountyGov/Departments/Planning/nrichapfive.pdf>

Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>

U.S. Department of Agriculture, Natural Resources Conservation Service, Hydrologic Unit Boundaries, [https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/nra/nri/?cid=nrcs143\\_013728](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/nra/nri/?cid=nrcs143_013728)

U.S. Environmental Protection Agency

Surf Your Watershed, <https://cfpub.epa.gov/surf/locate/index.cfm>

Healthy Watersheds Protection, <https://www.epa.gov/hwp>



# WETLANDS

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## What Is a Wetland?

Wetlands, according to the United States Army Corps of Engineers (Army Corps), are “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, wet meadows, and similar areas.” According to the New York State Department of Environmental Conservation (DEC), “Freshwater wetlands are those areas of land and water that support a preponderance of characteristic wetlands plants that out-compete upland plants because of the presence of wetlands hydrology (such as prolonged flooding) or hydric (wet) soils. Freshwater wetlands commonly include marshes, swamps, bogs, and fens.” Wetlands such as swamps and marshes are often easily recognizable, but some wetlands, such as forested wetlands and wet meadows, are not obvious because they are dry during part of the year or do not have standing water.

## Why Are Wetlands Important?

Wetlands are critical natural ecosystems and provide a variety of benefits such as:

- filtering harmful toxins, nutrients, and sediment from surface runoff;
- storing floodwaters and reducing the magnitude of flood events; and
- providing valuable habitat for a diverse array of flora and fauna, including many rare, threatened, or endangered species.

The recreational uses associated with wetlands are also very diverse and include birdwatching, hunting, and fishing, all of which provide direct economic benefits to local communities. Because wetlands are crucially important both economically and environmentally, they are highly regulated by the Army Corps and the DEC.

## How Are Wetlands Regulated?

The Army Corps regulates wetlands under Section 404 of the Clean Water Act and issues wetland permits for the placement of fill or dredge materials and the construction of certain structures in waterways (navigable and non-navigable) and wetlands. Disturbances to wetlands must be mitigated in accordance with Army Corps regulations. The Army Corps permit required for activities within a wetland, and the amount of wetlands mitigation required, vary depending on the type of project proposed and the area of wetland impacted.

The DEC primarily regulates wetlands that are 12.4 acres (5 hectares) or larger in size under the Freshwater Wetlands Act. It protects smaller wetlands if they are considered to have unusual local importance. For any work occurring within a wetland or within 100 feet of a wetland boundary, the DEC requires that a wetlands permit be obtained.

Prior to conducting work in or near a wetland, the Region 7 Office of the DEC or the Army Corps Buffalo District should be contacted to obtain the necessary approvals and permits. Each of these agencies will automatically forward permit applications to the other, and each agency will contact the applicant if additional permits and/or paperwork are needed. If permits are not obtained or



wetlands are improperly altered, the Army Corps and the DEC have the authority to levy fines.

### How Are Wetlands Classified?

The DEC classifies and ranks wetlands according to their respective functions, values, and benefits. Of the four classes of wetlands, Class I wetlands are the most valuable and are subject to the most stringent standards. For regulatory purposes, the Army Corps only classifies wetlands as regulated or not regulated based on the presence of wetland hydrology, hydric soils, and hydrophytic vegetation (wetland plants).

### Mapped Wetlands in Ulysses

Ulysses contains both National Wetlands Inventory wetlands (as mapped by the U.S. Fish and Wildlife Service) and additional NYSDEC Freshwater Wetlands (as mapped by the DEC), detailed in Table 5.

Table 5: Wetlands in Ulysses

	Acres of Wetlands	Percent of Municipality
2015 County-Mapped Wetlands	812.1	3.44%
National Wetlands Inventory wetlands	585.7	2.48%
NYSDEC Freshwater Wetlands	75.3	0.32%

In 2015, a data analyst at the Cornell Wildlife Health Lab created more accurate wetlands maps for Tompkins County using 2012 LiDAR data. This data differs from the National Wetlands Inventory data (last updated in 2017) as the National Wetlands Inventory uses different remote sensing imagery to create their maps. However, the NYSDEC Freshwater Wetlands dataset has not been updated for over a decade and does not match up with the wetlands data released in 2015. Therefore, the NYSDEC Freshwater Wetlands dataset does not appear to be an accurate representation of Ulysses' wetlands. Because the 2015 County-mapped wetlands appear to be the most accurate representation of wetlands in Ulysses, these wetlands are used in maps throughout this inventory.

### Maps and Data

The map on page 20 shows the NYSDEC Freshwater Wetlands, National Wetlands Inventory Wetlands, and 2015 County-mapped wetlands. The map on the following page shows Ulysses' wetlands as mapped in 2015 in order to display a map with only the most up-to-date information. All subsequent maps in this document that display wetlands use the 2015 data. The NYSDEC wetlands data is available from CUGIR under the name "[New York State Regulatory Freshwater Wetlands](#)," last updated for Tompkins County in 1994. The National Wetlands Inventory data comes from the [U.S. Fish and Wildlife Service](#) and was last updated in 2017.

Although the Army Corps and the DEC create and periodically update wetlands maps, these maps are developed for use at a very broad scale (1:200,000) and are best used as an indicator that wetlands are present, and that an on-ground, site-specific investigation by a qualified wetland specialist (Army Corps Engineer, Tompkins County Soil and Water staff, or private consultant) is

warranted. Many wetlands do not appear on wetland maps, so if land appears to be wet, or has typical wetland plants or soils, landowners should call the Army Corps or the DEC prior to altering the land to avoid wetland destruction and possible fines.

For questions about wetlands on active farmlands or the Wetlands Reserve Program (which makes payment to landowners for establishing wetland easements on their agricultural property), contact the USDA Natural Resources Conservation Service, Ithaca Office.

## Resources and References

Cayuga Lake Watershed Network, Wetlands Maps Updated for Tompkins County, <http://www.cayugalake.org/wetlands-mapping-project.html>

Cornell University Geospatial Information Repository (CUGIR), <https://cugir.library.cornell.edu/>

Mitsch, W.J. and J.G. Gosselink (1986). Wetlands. New York: Van Nostrand Reinhold.

New York State Department of Environmental Conservation

Freshwater Wetlands Permits, <http://www.dec.ny.gov/permits/6058.html>

Freshwater Wetlands Mapping, <http://www.dec.ny.gov/lands/5124.html>

Freshwater Wetlands Program, <http://www.dec.ny.gov/lands/4937.html>

Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>

U.S. Army Corps of Engineers

Regulatory Program and Permits, <http://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/>

Buffalo District, <http://www.lrb.usace.army.mil/>

U.S. Department of Agriculture, Natural Resources Conservation Service

Ithaca Service Center, <https://offices.sc.egov.usda.gov/locator/app?service=action/1/ServiceCenterSummary/4/agencyToOfficeLink>

Wetlands, <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/water/wetlands/>

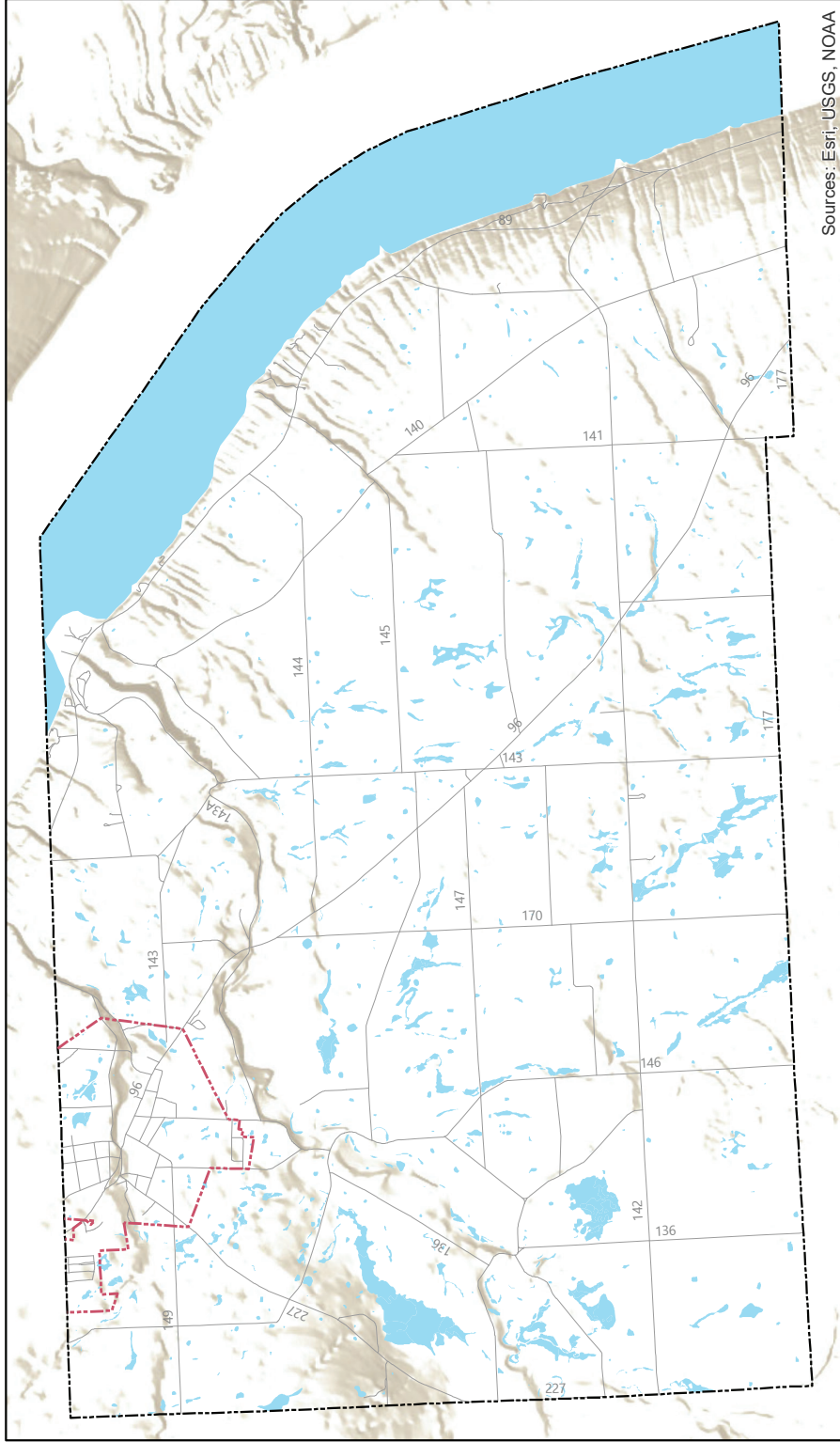
Wetlands Reserve Program, <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/wetlands/>

U.S. Fish and Wildlife Service, National Wetlands Inventory, <https://www.fws.gov/wetlands/data/State-Downloads.html>





# 2015 County-Mapped Wetlands



Town of Ulysses  
2018 Natural Resource Inventory

# FLOOD HAZARD AREAS

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## What Are Flood Hazard Areas?

Flood Hazard Areas (FHA) are areas that the Federal Emergency Management Association (FEMA) has determined to be vulnerable to flooding. See Table 6 for a description of flood event frequencies.

## Why Are Flood Hazard Areas Important?

Flood events are part of natural hydrological and seasonal cycles and may also occur more frequently as the global climate changes. The size and location of the areas, which are typically inundated during flood events, as well as the magnitude of the event, are significantly influenced by the total area of impervious surface (roads, parking lots, etc.) and wetlands within a watershed. Creation of or increases in impervious surfaces, diversion of water off the landscape (to ditches or nearby water bodies), and the loss of wetlands that help store and control floodwaters cause higher volumes and peak flows of stormwater runoff. It should also be noted that while floods can cause damage to infrastructure, the economy, and the environment, periodic inundation can benefit the habitat of certain flora and fauna species and add nutrients to agricultural lands located in flood areas.

## Flood Hazard Areas in Tompkins County

FEMA produces paper Flood Insurance Rate Maps (FIRMs) to show areas subject to flooding as determined by historic, meteorological, and hydrological data, as well as open space conditions, flood control structures, and land use in the watershed at the time the FEMA study is conducted. These maps delineate Special Flood Hazard Areas, which are areas that “will be inundated by the flood event having a 1% chance of being equaled or exceeded in any given year,” commonly referred to as 100-year or base flood areas. These maps may also include the elevation of the base flood (100-year flood event), flood insurance risk zones, and areas subject to inundation by a 0.2%-annual-chance or 500-year flood event, all of which may be used to establish the National Flood Insurance Program’s (NFIP) flood insurance premiums.

## Maps and Data

FEMA publishes the data from paper FIRMs and Letters of Map Revision (LOMRs) online as a digital database called the National Flood Hazard Layer (NFHL). FEMA also offers Flood Risk Maps (FRM), Flood Risk Reports (FRR), and Flood Risk Databases (FRD) online to help community officials and the general public assess and visualize flood risk. . The initial identification of data for the FIRM for the Town of Ulysses was made in 1974, with flood hazard boundary map revisions made in 1978, and an effective date of 1987. The age of the base data should be considered when using these maps for planning purposes.

The measurement used to estimate the frequency of a flood event can be confusing because a 100-year flood event is not a flood event that is likely to occur once every 100 years. Rather, it has a one percent chance of occurring or being exceeded during a one-year period, a 10% chance of occurring during a 10-year period, an 18% chance of occurring in a 20-year period, and so on. The following table shows the likelihood of occurrence of flood events during specified intervals of time.

Table 6: Likelihood of Experiencing at Least One Flood Event

Flood Event	In 1 year	In 10 years	In 20 years	In 25 years	In 30 years	In 50 years	In 100 years
<b>10-year</b>	10%	65%	88%	93%	96%	99%	99.99%
<b>25-year</b>	4%	34%	56%	64%	71%	87%	98%
<b>50-year</b>	2%	18%	33%	40%	45%	64%	87%
<b>100-year</b>	1%	10%	18%	22%	26%	39%	63%
<b>500-year</b>	0.2%	2%	4%	5%	6%	10%	18%

*Source: Water Courses Vol. 5, Issue 1, Spring 1998. A Newsletter from Cornell Cooperative Extension and the Department of Soil, Crop and Atmospheric Sciences, Cornell University*

Flood zones in Ulysses are located along Taughannock Creek, Trumansburg Creek, Bolter Creek, and the shore of Cayuga Lake, as well as along two other smaller tributaries to Cayuga Lake. Only 100-year flood zones are present in Ulysses.

The map on page 24 shows the 100-year flood zone in Ulysses. The data for this map is available via the Tompkins County Open Data Portal under the name “[Floodzones](#).” To view FEMA maps, please visit their website at <https://msc.fema.gov/portal>. Because this 1987 data is outdated, new data should be collected in order to better evaluate flood hazards, especially as flooding becomes more frequent as a result of climate change.

## Resources and References

Federal Emergency Management Act (FEMA)

Town of Ulysses, Flood Map Service Center, <https://msc.fema.gov/portal/search?AddressQuery=ulysses%20ny>

National Flood Insurance Program, <https://www.fema.gov/national-flood-insurance-program>

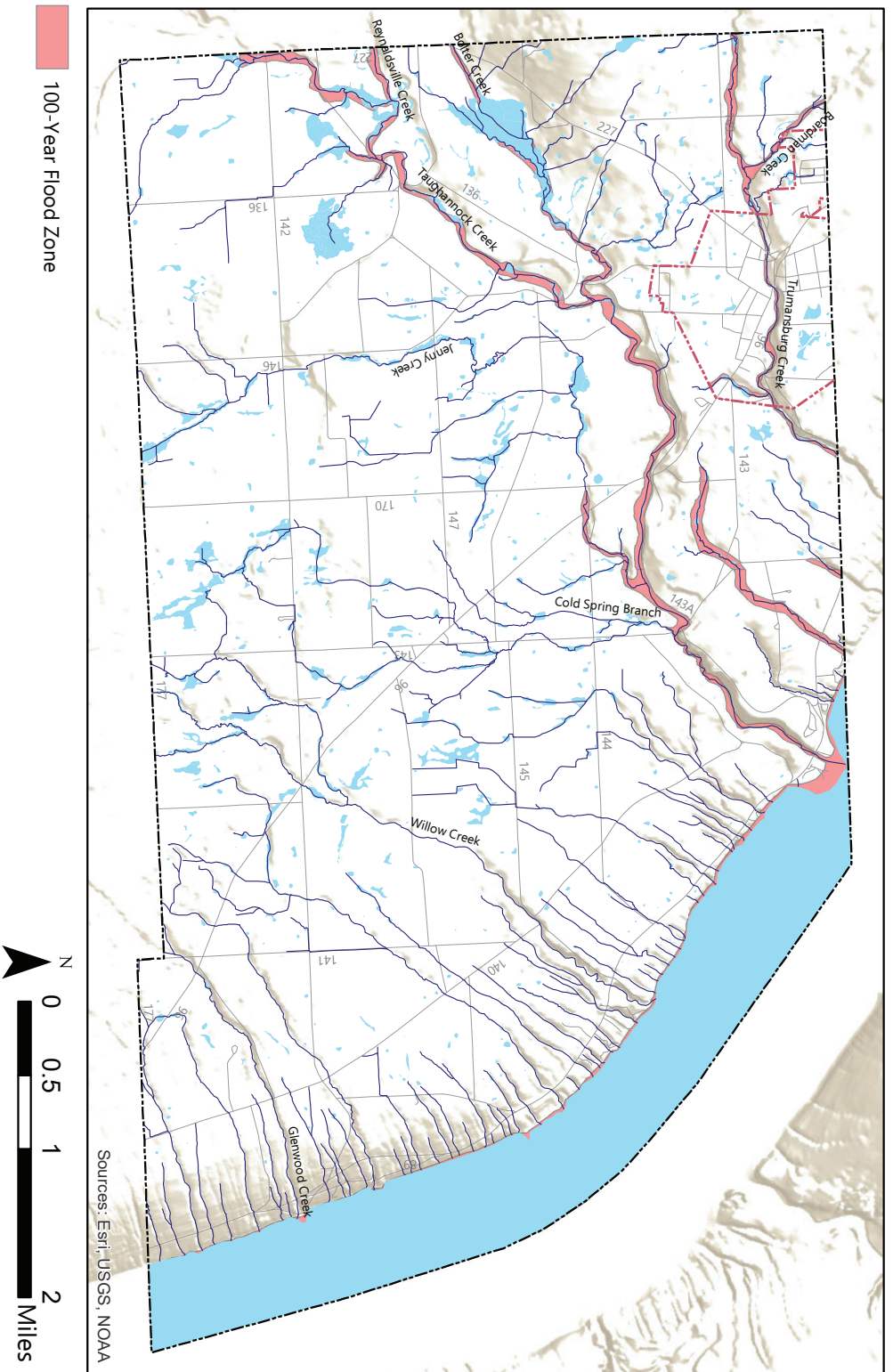
Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

Tompkins County Open Data Portal, <https://tcdata-tompkinscounty.opendata.arcgis.com/>

Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>



# 100-Year Flood Zones



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# AQUIFERS

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## What Is an Aquifer?

Aquifers are geologic formations beneath the Earth's surface that store and yield groundwater. One or more aquifers can lie beneath any given point on the Earth's surface; and the location, size, capacity, depth, and flow characteristics of an aquifer are directly related to the geology and hydrology of the particular aquifer and its recharge area. (See definition of recharge area below.)

Aquifers are usually described as confined or unconfined. Typically, confined aquifers are covered with, or consist of, less permeable substances such as clay or contiguous shale. Unconfined aquifers consist of unconsolidated materials such as sand and gravel, which allow substances to easily percolate from the surface to the aquifers below.

The uppermost boundary of surficial aquifers (those closest to the Earth's surface) is defined by the water table, which is where the spaces in unconsolidated sediments and the openings in bedrock are fully saturated. The spaces between soil and rock particles in the unsaturated zone, located above the water table, are only partially occupied by water. The water table rises and falls depending on the rates of groundwater recharge and discharge, the capacity of the aquifer, the rate of water use by plants on the surface (transpiration), and water withdrawals.

Aquifers can be replenished—or recharged—by the infiltration of precipitation and surface water runoff through soil, as well as by surface water resources such as streams, creeks, wetlands, and floodplains. The land area that contributes to this infiltration is called a recharge area. Recharge areas may replenish aquifers directly beneath them (as in the case of unconfined or surficial aquifers) or they may recharge aquifers far away (as in the case of confined aquifers).

## Why Are Aquifers Important?

Aquifers are an important source of water for residential, commercial, and industrial uses. Most Ulysses residents use wells to source groundwater for their homes. Additionally, in central New York, groundwater typically contributes more than half of the total annual flow to local streams and creeks.

Because aquifers are replenished by the infiltration of surface water, impervious surfaces (pavement from roads or parking lots, roofs, building footprints, etc.) decrease recharge areas and threaten aquifers by inhibiting infiltration of precipitation and surface water through the soil. Any contaminant contained in or near an aquifer and/or its recharge area may potentially contaminate the aquifer. Potential contaminants include bacteria and pathogens leaching from septic systems; gas, salt, and oil washed from parking lots; fertilizers; pesticides; hazardous or toxic waste spills; and petroleum or oil leaking from underground storage tanks.

Some groundwater migrates slowly and can take several years to decades or even centuries to move contaminants from the point of origin to the point of discharge. Once degraded, an aquifer can become unusable, and oftentimes remediation is not technologically or economically feasible. Moreover, because of groundwater and surface water interactions, contamination in an aquifer may eventually contaminate surface water as well.

The quantity of water contained within an aquifer and the aquifer's ability to serve as a reliable supply of water must also be considered. Generally, an aquifer's geology, retention, and recharge characteristics determine the quantity of water available. When water is withdrawn at a rate faster than it is recharged, the aquifer can be depleted. Generally, this occurs when too many wells withdraw water from an aquifer.

## Aquifers in Ulysses

The process of glaciation and the subsequent deposition of coarse sand and gravel deposits heavily influenced the location, size, and capacity of aquifers in Tompkins County. As a result, several small discontinuous local aquifers in Tompkins County were created that support limited numbers of wells while others supply vast quantities of water. The Town of Ulysses has one large confined aquifer (sand and gravel bordered by an unconfined outwash sand and gravel aquifer) in the western portion of the town and smaller unconfined aquifers (deltaic sand and gravel) under Cayuga Lake. Above the large confined aquifer is the site of an abandoned landfill.

Bedrock aquifers (interlayered sandstones, siltstones, and limestones) typically yield much less water than sand and gravel aquifers. Although bedrock aquifers may be sufficient to supply individual residential units and small farms, the water may be heavily mineralized and relatively unreliable. Most Ulysses residents who use wells draw their water from bedrock aquifers.

## Maps and Data

The following surficial aquifer map indicates the general location of aquifers in Ulysses as well as abandoned landfills. The data for this map was provided by the Tompkins County GIS Division. Similar datasets containing aquifer data are available from the NYS GIS Clearinghouse under the names "[Primary Aquifers - 1:24,000](#)," "[New York State Aquifers](#)," and "[Unconsolidated Aquifers at 1:250,000](#)." This map is not intended to be used for detailed site evaluations as the determination of precise aquifer locations and characteristics requires additional evaluation.

## Resources and References

Miller, T.S. (1990). Sand and Gravel Aquifers of Schuyler County, New York. U.S. Department of Energy, U.S. Geological Survey, Water-Resources Investigations Report 90-4073.

New York State GIS Clearinghouse, <http://gis.ny.gov/>

Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

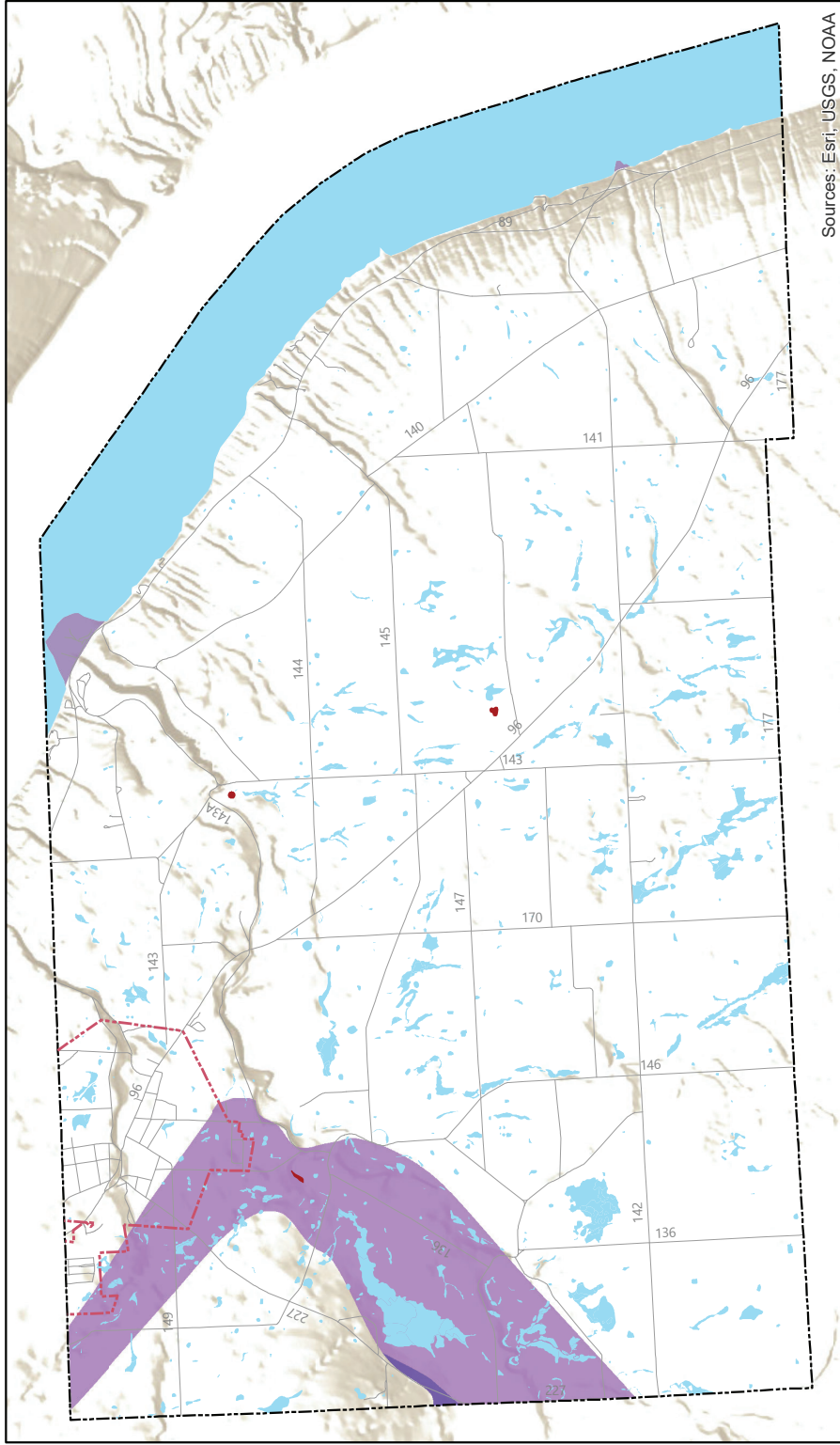
Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>

U.S. Geological Survey, New York Water Science Center, Ithaca Program Office, <https://ny.water.usgs.gov/about/officeithaca.html>

Winter, T.C., J.W. Harvey, O.L. Franke and W.M. Malley (1998). Ground Water and Surface Water: A Single Resource. USGS Circular.

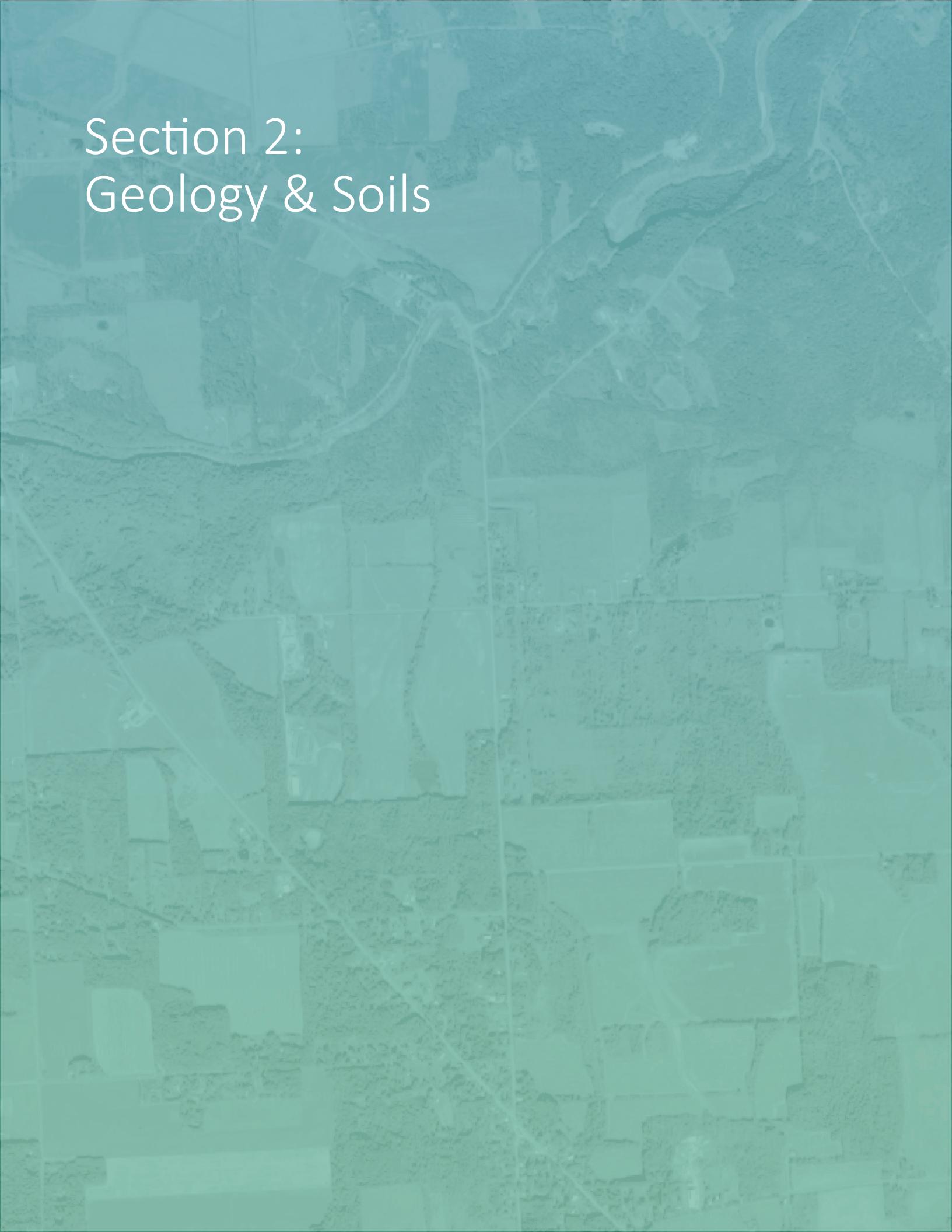


# Aquifers and Abandoned Landfills



- Abandoned Landfills
- Deltaic Sand & Gravel - unconfined
- Outwash Sand & Gravel - unconfined
- Sand & Gravel - confined
- Water
- Till and/or bedrock

Town of Ulysses  
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# Section 2: Geology & Soils



# SLOPE AND TOPOGRAPHY

## What Are Slope and Topography?

Slope and topography describe the shape and relief of the land. Topography is a measurement of elevation, and slope is the change in that elevation over a certain distance. Topography may be measured with lines that connect points representing the same elevation; these are called topographic contours. Slope is measured by calculating the difference in the elevation from one point to another divided by the lateral distance between those points. Topographic data can also be used to create a model of the land's surface called a digital elevation model (DEM).

## Why Are Slope and Topography Important?

Topography and slope should be considered when drawing up site plans for any construction project and most agricultural activities. Consideration of the slope of the land is important to reduce construction costs, to minimize risks from natural hazards such as flooding and landslides, to reduce erosion, and to minimize the impacts of proposed development on natural resources such as soils, vegetation, and water systems.

## Slope and Topography in Ulysses

Tompkins County is characterized by diverse topography. The northern regions of the County consist of medium to high elevation areas that are fairly flat. The flatness of these areas makes them ideal for farming. Segments of creeks in this area flow through gorges which have extremely steep slopes. The Village of Trumansburg, which is within the Town of Ulysses, is located in a flat floodplain adjacent to creeks that are often subjected to flooding. The steepest parts of Ulysses tend to be adjacent to streams, creeks, and Cayuga Lake. Because most of Ulysses is relatively flat, it is suitable for development and agriculture. Table 7 summarizes the development potential of land based on its degree of slope.

Table 7: Development Potential Based on Degree of Slope

Degree of Slope	Development Potential
0% to 1%	Suitable primarily for agriculture that uses flood irrigation unless extensive drainage infrastructure is installed
1% to 3%	Suitable for most development
3% to 8%	Suitable for medium-density development
8% to 15%	Suitable for moderate to low-density residential development as well as pastures, forests, and vineyards
15% to 25%	Suitable for low-density residential development as well as pastures, forests, vineyards, and recreational uses
Over 25%	Recreational uses and open space

Sources: Anderson, L.T. (2000). *Planning the Built Environment*. New York: Routledge, and Lehigh Valley Planning Commission, *Steep Slopes: Guide and Model Regulations* (2008).



The highest point in Ulysses is 409.6 meters (1344 feet) and the lowest point is 116.4 meters (382 feet).

## Maps and Data

A hillshade map, which visualizes topography, is included on page 31, and a map categorizing steepness of slope is included on page 32. A map showing slope with wetlands overlaid is included on page 33. The hillshade map was produced by Esri, the USGS, and NOAA at a scale of 1:70,000. The slope dataset was derived from the [Digital Elevation Model](#) created by the U.S. Geological Survey at a scale of 1:24,000.

## Resources and References

Anderson, L.T. (2000). *Planning the Built Environment*. New York: Routledge.

Fakundiny, R. H., & Albanese, J. R. (2005). New York State Geological Survey (NYSGS). In P. Eisenstadt & L. E. Moss (Eds.), *The Encyclopedia of New York State*. Syracuse, NY: Syracuse University Press.

Lehigh Valley Planning Commission, *Steep Slopes: Guide and Model Regulations* (2008), <http://www.lvpc.org/pdf/SteepSlopes.pdf>

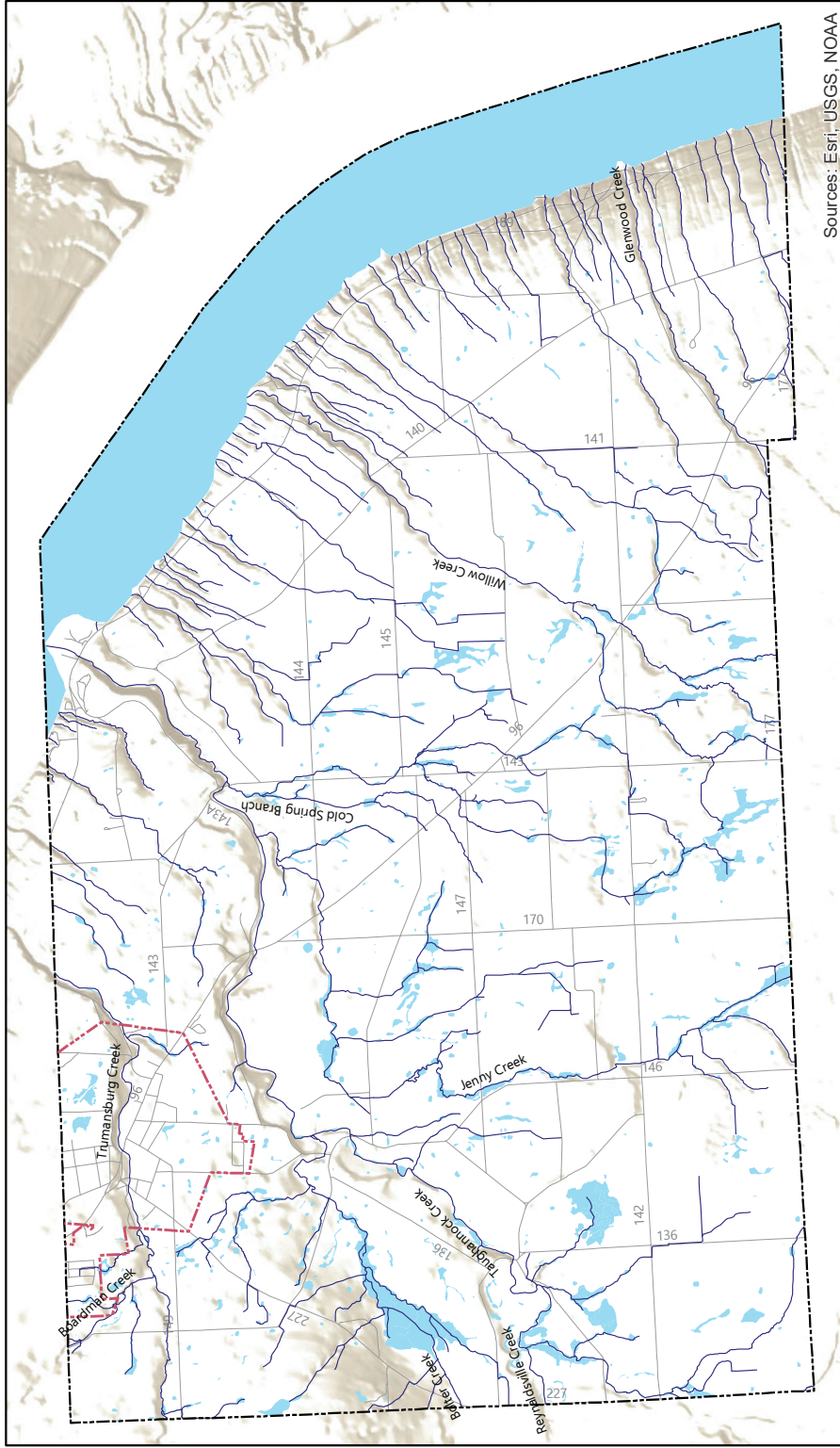
New York State GIS Clearinghouse, <http://gis.ny.gov/>

Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

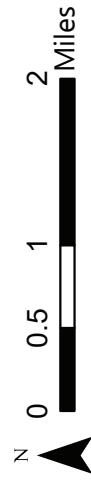
Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>

U.S. Geological Survey, New York Water Science Center, Ithaca Program Office, <https://ny.water.usgs.gov/about/officeithaca.html>

# Hillshade

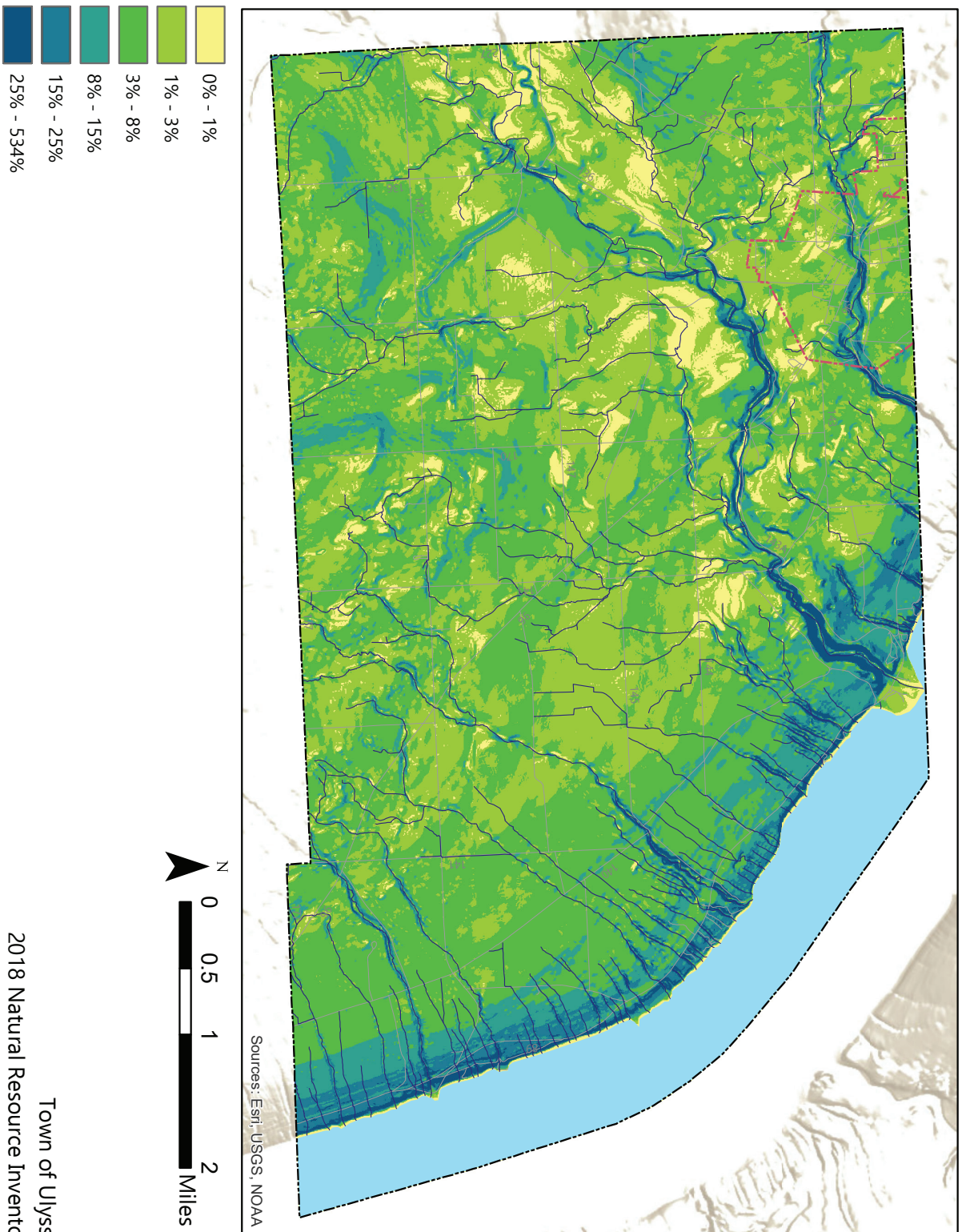


Sources: Esri, USGS, NOAA



Town of Ulysses  
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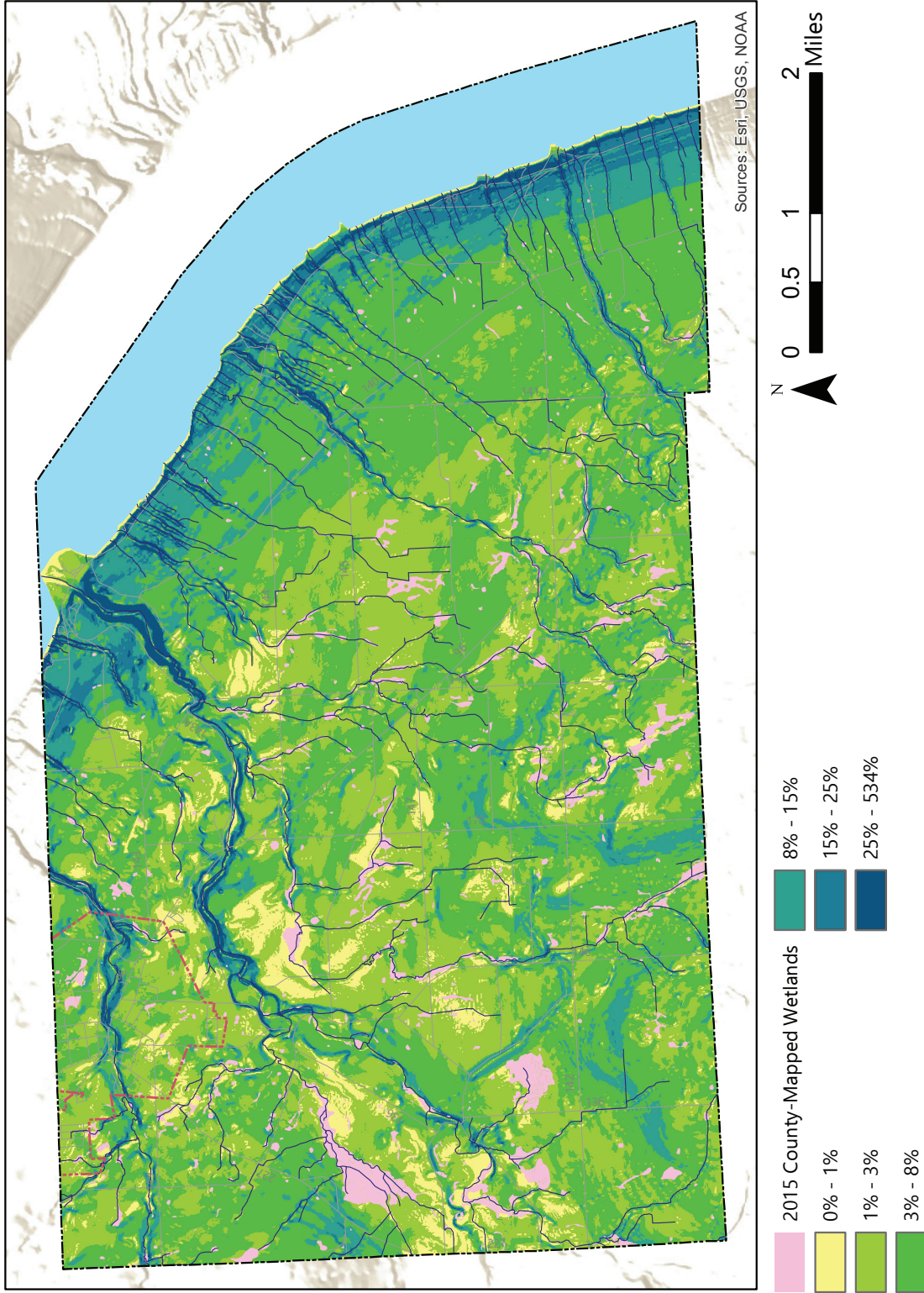
# Slope



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# Slope with Wetlands



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# BEDROCK GEOLOGY

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## What Is Bedrock Geology?

Bedrock geology describes the basic rock formations that underlie soils and unconsolidated materials (see Surficial Geology section). Bedrock occasionally protrudes through these materials or may be exposed alongside roads and creek beds. These rocks, formed millions of years ago, constitute the foundation of materials and topography in a region. Bedrock is found beneath the soils and may, in Tompkins County, be buried beneath glacial till, composed of rock fragments of various sizes that were released from glaciers as they receded.

## Why Is Bedrock Geology Important?

In Tompkins County, the depth to bedrock is relatively shallow, sometimes only 5 to 10 feet below the surface of the soil. Shallow depth to bedrock significantly impacts the location, development, maintenance, and cost of public services, such as sewers, water supply systems, and roads. Construction feasibility and costs for private investments, such as building foundations, septic tanks, and private roads, are partially dependent on the depth to bedrock. Shallow bedrock may also be subject to frost heaving and deformation. Determination of bedrock qualities must be made on a site-specific basis.

## How Was Bedrock Formed?

Approximately 550 million years ago, the land that is now Tompkins County and the surrounding region was submerged under an ancient sea. Over the course of 325 million years, layers of sediment (sand, mud, salt, and lime) were deposited on the lake bottom and slowly hardened into beds of sedimentary rocks that we now know as sandstone, shale, and limestone.

## Bedrock Geology in Ulysses

There are three major groupings of bedrock in Ulysses. The formations found within a group are shown in parentheses. The following are listed from oldest to youngest formations:

**Genesee Group (Dg, Dt):** This grouping of limestone, shale, and siltstone is the bedrock visible in gorges in Ulysses at elevations of 400 to 1000 ft. The Ithaca Formation (Dg) comprises 62.6% of Ulysses. Tully Limestone (Dt) is located near Cayuga Lake and comprises 0.2% of Ulysses.

**Sonyea Group (Ds):** These siltstones and shales can be found between 200 and 1,000 feet in elevation and comprise 37.0% of Ulysses' bedrock.

**Hamilton Group (Dhmo, Dhld):** These blackish to bluish-gray shales and thin beds of limestone are found at elevations of 600 to 1500 feet in the Moscow formation (Dhmo) which runs along both sides of Cayuga Lake. In Ulysses, Dhmo comprises 0.2% of the bedrock.

## Maps and Data

The New York State Geological Survey has produced a geographic data set of bedrock geology. The Bedrock Geology map was created at a scale of 1:2,500,000, and depicts general locations of various rock formations; it should not be used for any site-specific analyses. This dataset was

available via the Tompkins County Open Data Portal under the name “Bedrock.”

For more detail on New York State Bedrock formations, go to the following website: <http://www.nysm.nysed.gov/data/bedrock.txt>

## Resources and References

Fakundiny, R. H., & Albanese, J. R. (2005). New York State Geological Survey (NYSGS). In P. Eisenstadt & L. E. Moss (Eds.), *The Encyclopedia of New York State*. Syracuse, NY: Syracuse University Press.

Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

Tompkins County Open Data Portal, <https://tcddata-tompkinscounty.opendata.arcgis.com/>

Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>

U.S. Geological Survey

National Geologic Map Database, <https://ngmdb.usgs.gov/Geolex/search>

New York Water Science Center, Ithaca Program Office, <https://ny.water.usgs.gov/about/officeithaca.html>

Von Englen, O.D. (1961). *The Finger Lakes Region: Its Origin and Nature*. Ithaca, NY: Cornell University Press.





# SURFICIAL GEOLOGY

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## What Is Surficial Geology?

Surficial geology describes the rocks and unconsolidated materials that lie between bedrock and the surface of the land. In the Finger Lakes region, glaciers that receded 12,000 to 25,000 years ago deposited these materials. When the glaciers receded, the rock and debris frozen within the ice were left behind in various formations depending upon how fast or slow the glacier receded. These formations contain various sized particles and are classified by the shape of formation, the thickness, and the type and size of particles found.

## Why Is Surficial Geology Important?

Surficial geology is important because the characteristics of materials below the earth's surface influence the feasibility of constructing buildings and roads. Surficial deposits commonly determine soil composition and therefore may affect agricultural viability.

## Surficial Geology Deposits in Ulysses

There are six types of surficial geology deposits in Ulysses:

1. **Lacustrine Sands** are well sorted (particles are of similar size) and stratified sand deposits that settled out when lakes were formed by the melting glaciers. Deposits found today range from 6 to 60 feet in thickness.
2. **Lacustrine Silts** are generally laminated silt and clay, deposited in lakes formed during the melting of the glaciers. They are high in calcite, have low permeability, and form potentially unstable land. These are found in variable thickness of up to 160 feet. This is a common type of surficial geology deposit in Ulysses, particularly along the shores of Cayuga Lake.
3. **Outwash Sand and Gravel** is coarse to fine gravel mixed with sand. Location is restricted to valley bottoms and stream terraces. These deposits are of variable thickness of five to 65 feet.
4. **Kames** are glacial deposits of various forms which include kames, eskers, kame terraces, and kame deltas. They are small, irregular hills and terraces deposited by glaciers and are typically found in valleys. These deposits are composed of coarse to fine gravels and/or sands in thicknesses of 30 to 100 feet.
5. **Till** deposits are poorly sorted (particles of varying sizes) material of variable texture such as clay, silt-clay, or boulder clay that were deposited beneath the glacial ice. Permeability of these deposits varies with the amount of compaction. Thicknesses vary from 3 to 160 feet.
6. **Till Moraine** is much like till, but has a more variable sorting, and is generally more permeable than till. Deposits of till moraine were typically set down adjacent to glacial ice. Thicknesses vary from 30 to 100 feet. This is the primary type of surficial geology deposit in Ulysses.

Table 8 summarizes the surficial geology of Ulysses.

Table 8: Surficial Geology of Ulysses

Type of Surficial Geology Deposit	Percent of Municipality
Kame Deposits	0.4%
Lacustrine Sand	3.1%
Lacustrine Silt and Clay	18.6%
Outwash Sand and Gravel	1.9%
Till	67.8%
Till Moraine	8.2%

## Maps and Data

The following map shows the surficial geography of the Town of Ulysses. The dataset was available from the Tompkins County Open Data Portal under the name “Surficial Geology.”

## Resources and References

Fakundiny, R. H., & Albanese, J. R. (2005). New York State Geological Survey (NYSGS). In P. Eisenstadt & L. E. Moss (Eds.), *The Encyclopedia of New York State*. Syracuse, NY: Syracuse University Press.

Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

Tompkins County Open Data Portal, <https://tcddata-tompkinscounty.opendata.arcgis.com/>

Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>

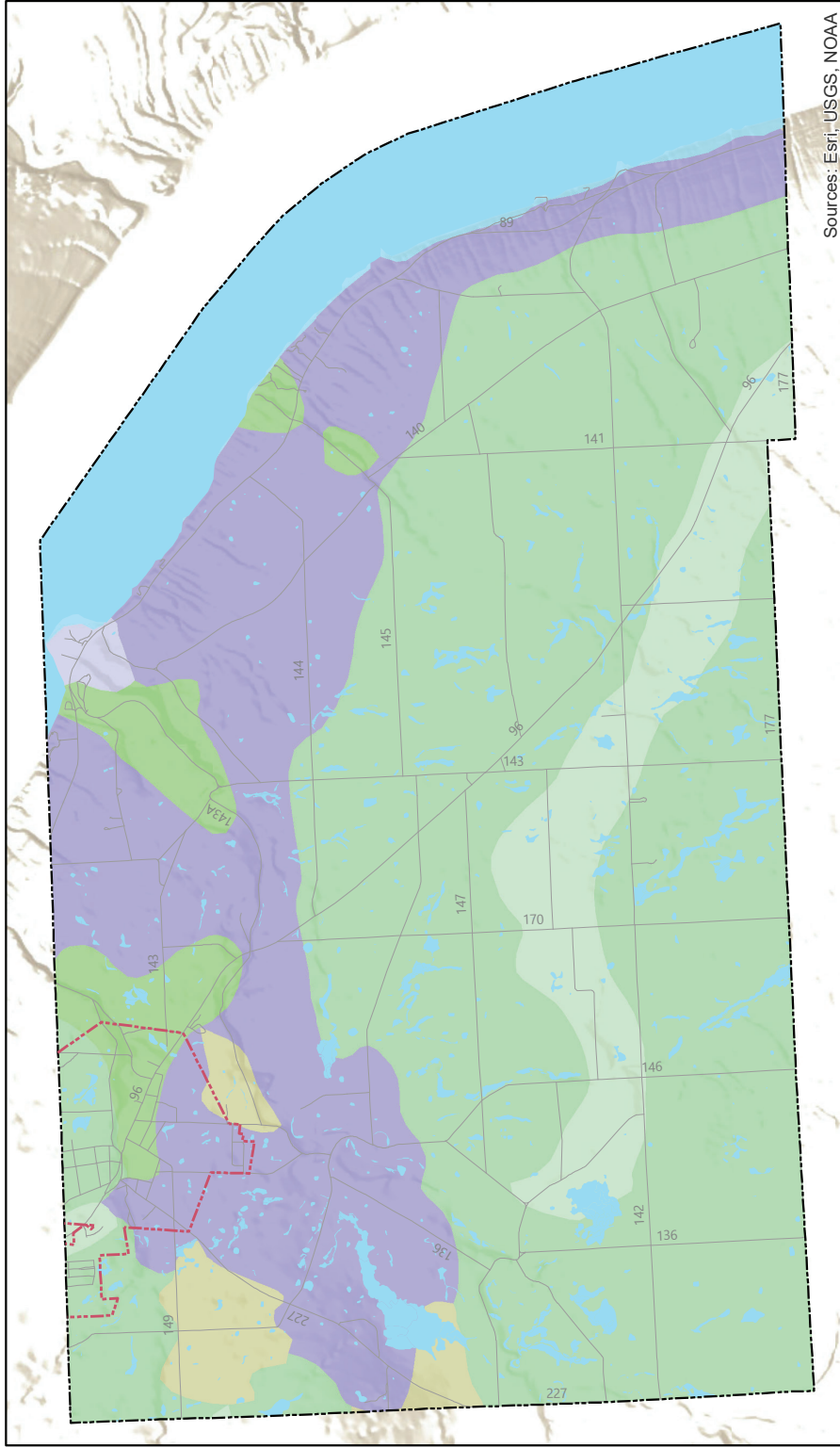
U.S. Geological Survey

National Geologic Map Database, <https://ngmdb.usgs.gov/Geolex/search>

New York Water Science Center, Ithaca Program Office, <https://ny.water.usgs.gov/about/officeithaca.html>



# Surficial Geology



- Kame Deposits
- Lacustrine Sand
- Lacustrine Silt & Clay
- Outwash Sand & Gravel
- Till
- Till Moraine
- Water

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# SOILS

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## What Are Soils?

Soil is a mixture of mineral particles, organic matter, water, and air. Soils are often described in terms of their primary texture (e.g., sand, silt, and clay).

## Why Are Soils Important?

Soils affect a variety of human activities from agriculture to the engineering and construction of roads, buildings, and sewage disposal systems. They are critical in determining the productivity and viability of agricultural operations. The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) evaluates soils in terms of their capability to support agriculture. These range from Class I soils, which are productive and easy to work, to Class VIII soils, which are not suitable for growing crops, pasture, or trees for profit.

Planning boards, elected officials, zoning officers, developers, etc., can use soil maps to identify areas suitable for future development of homes, industry, agriculture, and recreation. For example, a soil map may indicate poorly drained areas, which should not be used for residential development because of the need for costly drainage facilities and because they may be sites of existing or potentially restored wetlands. Soil maps can also be used to assess the likelihood of finding suitable sites for individual, on-site, sewage disposal systems.

## Classification of Soils

NRCS (and its predecessor, the Soil Conservation Service) is the agency responsible for preparation of maps showing soil series containing soils that share common profiles. Soil series are further divided into soil types that share common physical features, general properties that affect the use of the soil, and properties that limit suitability for cultivation.

Nunda, Darien, and Cazenovia series soils are capable of supporting crops such as corn, oats, vegetables, soy beans, dry beans, and small grains, and they can be used for hay and pasture. Prior to clearing, these soils typically support trees such as sugar maples, red maples, and white pines.

Ontario, Lima, Lansing, Honeoye, and Conesus series soils are frequently used for farming hay, corn, oats, wheat, soy beans, dry beans, some vegetables, and deciduous fruit. Conesus series soils can also be used as dairy pasture and for growing grapes. Wooded areas on these soils support sugar maple, red oak, white oak, American beech, white ash, and black cherry, among other types of trees.

Rhinebeck, Niagara, Hudson, Dunkirk, and Collamer series soils can support hay, oats, corn, small grains, small fruits, and some vegetables. These soils can also be used as pasture. Trees that grow well with this soil include sugar maples, red oaks, black cherries, basswood, hickories, and hemlocks.

Volusia, Mardin, and Lordstown series soils are often cleared but idle. Much of these soils are reverting to brush and trees. These soils can be used to support silage corn, small grains, hay, and pasture. Some farmers have grown potatoes in this soil on sloping areas. Wooded areas on these

soils support sugar maple, beech, white ash, black cherry, and hemlock.

Wayland, Palmyra, Howard, and Chenango series soils can support hay, corn, small grains, vegetables, fruits, and nursery stock. Chenango series soils can also be used for growing grapes. All of these soils make good pasturelands. Woodlots on these soils often have sugar maples, red maples, American beech, eastern hemlocks, white pines, and black cherries.

In addition to being evaluated in terms of agricultural viability, soil types have been assessed by the NRCS in terms of their suitability for various types of development. Soil characteristics that are considered in this assessment are depth to seasonal high water table, depth to bedrock, flood potential, and permeability. Depth to seasonal high water table affects both building foundation and septic system siting. A seasonal high water table can cause flooding in basements or cause a septic system to malfunction. A high water table can also affect the ability of a soil to support weighty structures.

## Maps and Data

Soils are mapped at various levels of detail, the two most common being general soil maps and soil surveys.

General soil maps show soil associations that share a characteristic landscape and pattern of soils. The soils within any one association may be somewhat similar, but they commonly differ in many important characteristics. These maps are suitable for planning large areas such as multi-county regions and large drainage basins. A general soil map for Ulysses is included on page 43. The data used to create this map comes from the U.S. Department of Agriculture's Natural Resources Conservation Service's Soils Division's U.S. General Soil Map, downloaded in 2015. A summary of soil types in Ulysses is included in Table 9.

Table 9: Soil Types in Ulysses

Soil Type	Percent of Land in Municipality
Nunda-Darien-Cazenovia	2.1%
Ontario-Lima-Lansing-Honeoye-Conesus	17.3%
Rhinebeck-Niagara-Hudson-Dunkirk-Collamer	23.2%
Volusia-Mardin-Lordstown	53.7%
Wayland-Palmyra-Howard-Chenango	3.7%

Soil survey maps are more detailed. The area of soil delineated on these maps can be as small as one or two acres. These maps can be used for planning at the county or municipal level. This soil data is available via the U.S. Department of Agriculture's Natural Resources Conservation Service's Soils Division.

Also included are a map of drainage based on soil type (see page 43), a map of prime agricultural soils (see page 46), and a map of hydric soils. The soil drainage map is derived from the U.S. General Soil Map. The data for the prime agricultural soils and hydric soils were provided by the



Tompkins County GIS Division.

Soil drainage refers to a soil's ability to retain water and is influenced by soil texture and organic content. The soil drainage map classifies Ontario-Lima-Lansing-Honeoye-Conesus, Mardin-Lordstown-Bath, Wayland-Teel-Herkimer, Wayland-Palmyra-Howard-Chenango, and Valois-Howard-Bath as soils that drain well; Rhinebeck-Niagara-Hudson-Dunkirk-Collamer as soils that drain moderately well; and Nunda-Darien-Cazenovia and Volusia-Mardin-Lordstown as somewhat poorly drained. Water and urban land are categorized as "somewhat excessively drained." Most of Ulysses is well drained or moderately well drained.

According to the USDA, prime agricultural land "is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses." This land is determined based on soil quality, the length of the growing season, and moisture supply. Most of Ulysses qualifies as prime agricultural land, either as-is or if drained.

Lastly, hydric soils are soils that lack oxygen for an extended period of time due to saturation or flooding, such as soils in wetlands. Hydric soils can be naturally or artificially produced.

## Resources and References

Cornell Cooperative Extension, Cornell Small Farms Program, Soil Drainage, <http://smallfarms.cornell.edu/plan-your-farm/accessing-evaluating-land/evaluating-land-tutorial/know-your-soils/soil-drainage/>

Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

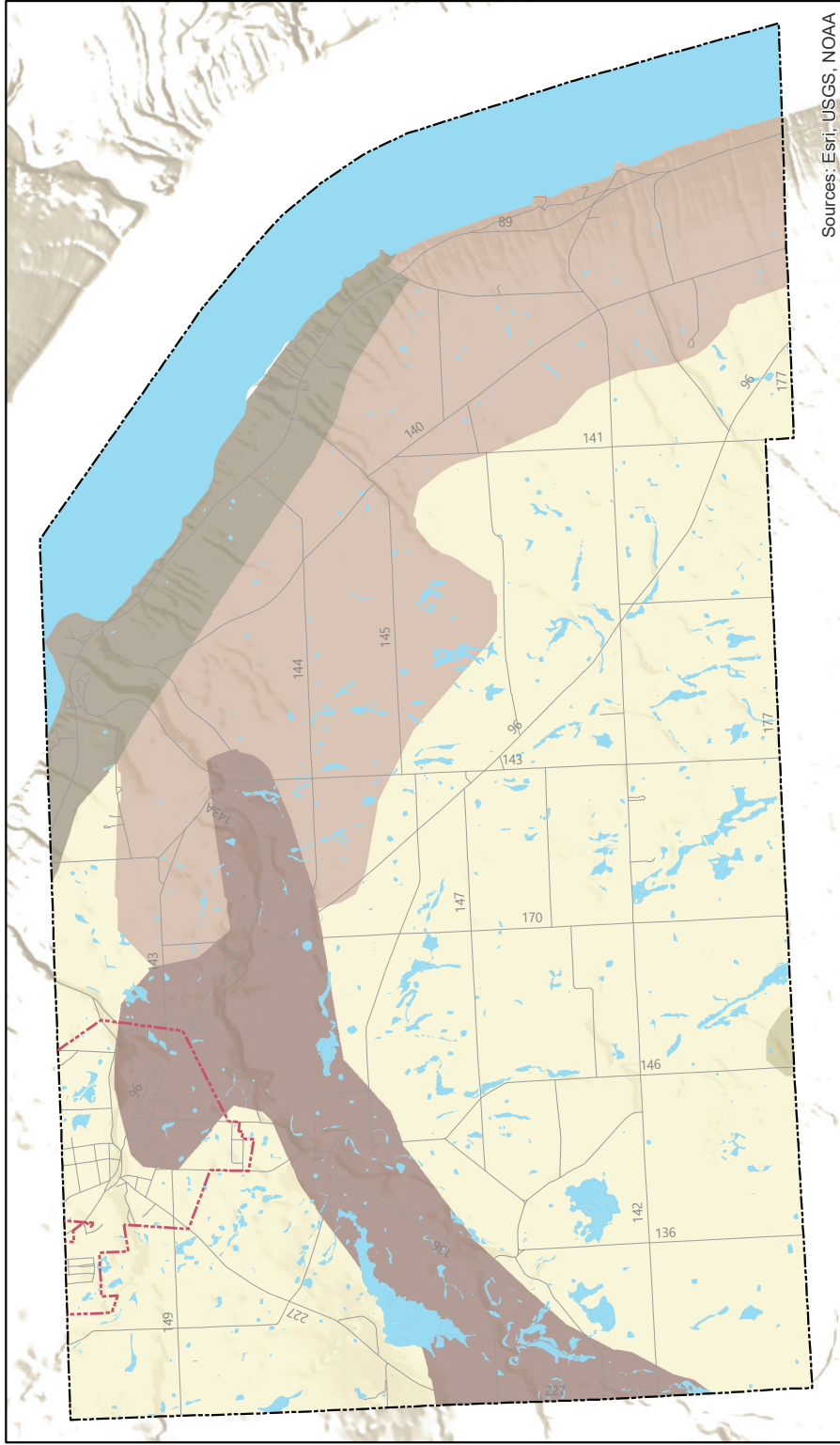
Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>  
Tompkins County Soil and Water Conservation District, <http://www.tompkinscountyny.gov/swcd>

U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Division  
Hydric Soils – Introduction,  
[https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/use/hydric/?cid=nrcs142p2\\_053961](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/use/hydric/?cid=nrcs142p2_053961)  
Official Soil Series Descriptions (OSDs),  
[https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/class/data/?cid=nrcs142p2\\_053587](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/class/data/?cid=nrcs142p2_053587)

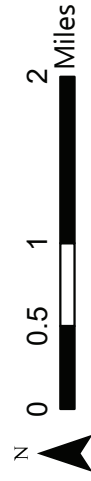
U.S. General Soils Map, <https://gdg.sc.egov.usda.gov/GDGOrder.aspx?order=QuickState>

U.S. Department of Agriculture, Soil Conservation Service, & Cornell University Agricultural Experiment Station. (1965). Soil Survey: Tompkins County, New York (1961 No. 25). Washington, D.C.: U.S. Government Printing Office.

# General Soils Map

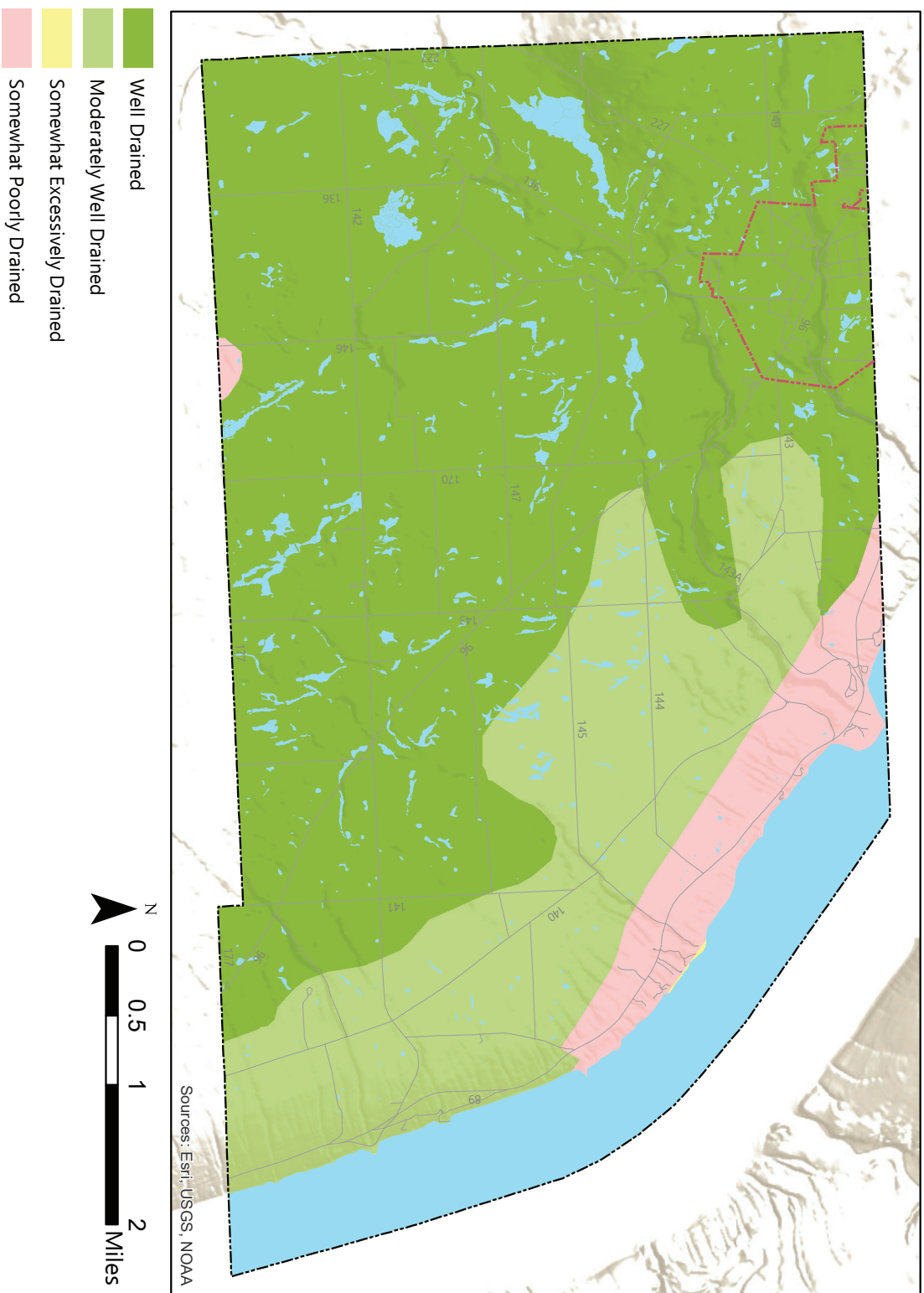


- Nunda-Darien-Cazenovia
- Ontario-Lima-Lansing-Honeoye-Conesus
- Rhinebeck-Niagara-Hudson-Dunkirk-Collamer
- Volusia-Mardin-Lordstown
- Wayland-Palmyra-Howard-Chenango



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# Soil Drainage

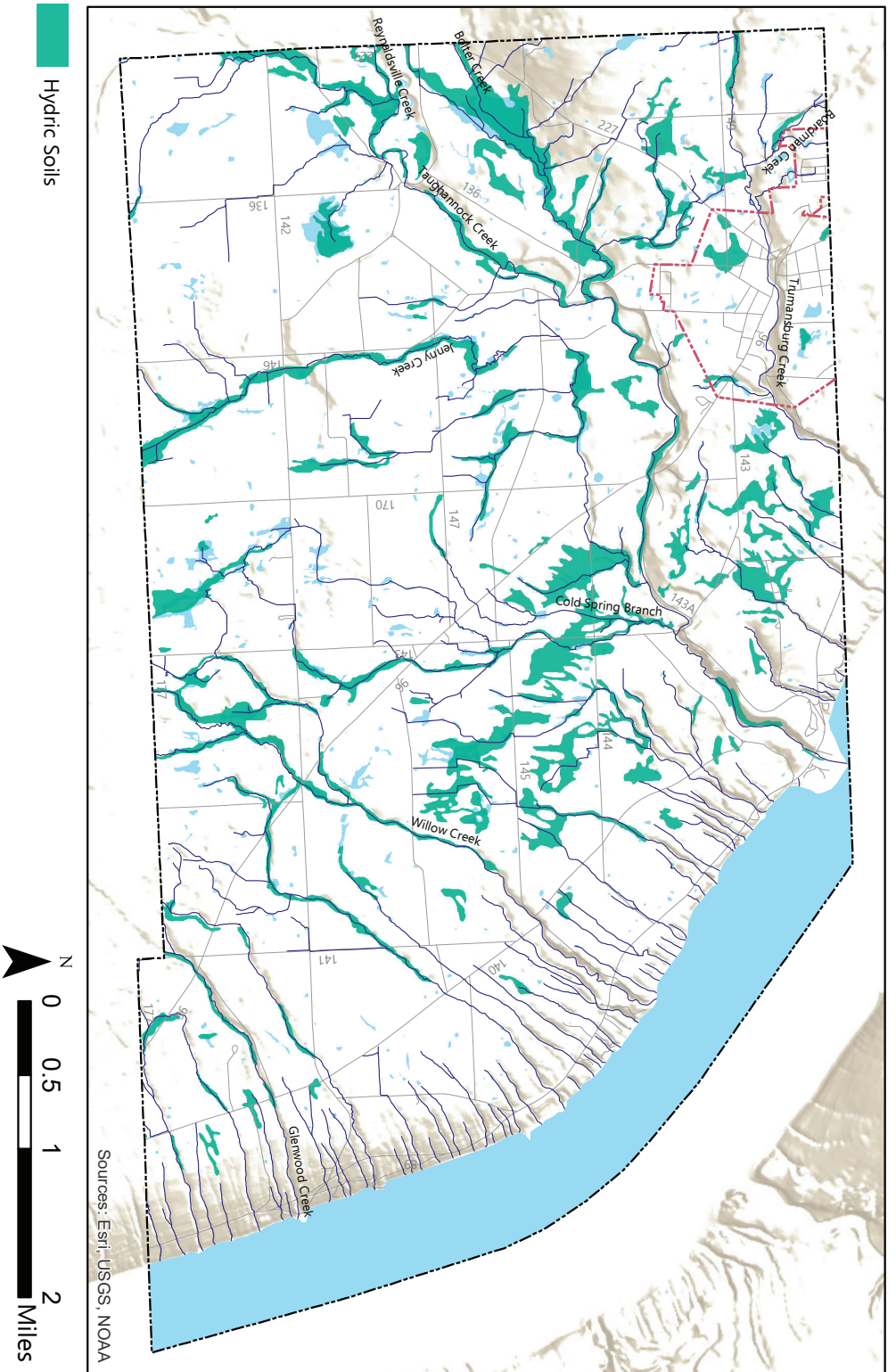


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# Hydric Soils



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# Section 3: Land Use & Protected Land



# LAND USE AND LAND COVER

## What Are Land Use and Land Cover?

Land use refers to how humans use the landscape and includes categories such as residential development and agriculture. Land cover refers to the physical cover of the land, whether natural or manmade. These categories range from forests and wetlands to impervious surfaces and cleared fields.

## Why Are Land Use and Land Cover Important?

The current land use and land cover information enables communities to identify existing land use patterns, and, consequently, make better informed decisions concerning proposed land uses, development suitability analyses, and comprehensive planning. These data provide a static picture of development patterns, may be used as a benchmark for future land use and land cover analyses, and may be used for historical analyses when old data becomes available in Geographic Information System (GIS) format.

## Land Use and Land Cover in Ulysses

Land use and land cover data from 2015 have been mapped into a single GIS coverage, Land Use and Land Cover (LULC), which form a basis for comprehensive study of the land surface in Tompkins County. Individual classes are grouped into main categories. The data for the Town of Ulysses is as follows:

Table 10: Land Use and Land Cover by Category

Category	Percentage of Total Area Including Water Bodies	Percentage of Total Land Area	Examples of Individual Classes
Agriculture	34.2%	38.4%	Cropland, pastures
Barren or Disturbed	0.4%	0.4%	Vegetation has been cleared but no development
Brush/Grass	11.8%	13.2%	Brush of grass growing as vegetative cover
Commercial	0.6%	0.6%	Retail stores, offices
Forest	26.2%	29.4%	Uncleared forested land
Inactive Agriculture	2.2%	2.5%	Agricultural land not in use
Industrial, Transportation, and Transmission	0.2%	0.2%	Utilities, pipelines, highways, railroads
Public/Institutional	0.5%	0.6%	Educational facilities, cemeteries, public works
Recreation	1.6%	1.8%	Golf courses, ball fields, parks
Residential	9.7%	10.9%	High, medium, and low density residential
Water	10.8%	---	Natural lakes, ponds
Wetlands	1.8%	2.0%	NYSDEC or national wetlands

## Maps and Data

The map on page 50 shows land use/land cover in Ulysses. Data for this map was provided by the Tompkins County GIS Division and was last updated in 2015. Although the 2015 data is not available online, the 2012 data is available from CUGIR under the name “Land Use and Land Cover, Tompkins County NY 2012.” For more information on the Land Use Land Cover Project methodology, contact the Tompkins County Planning Department.

## Resources and References

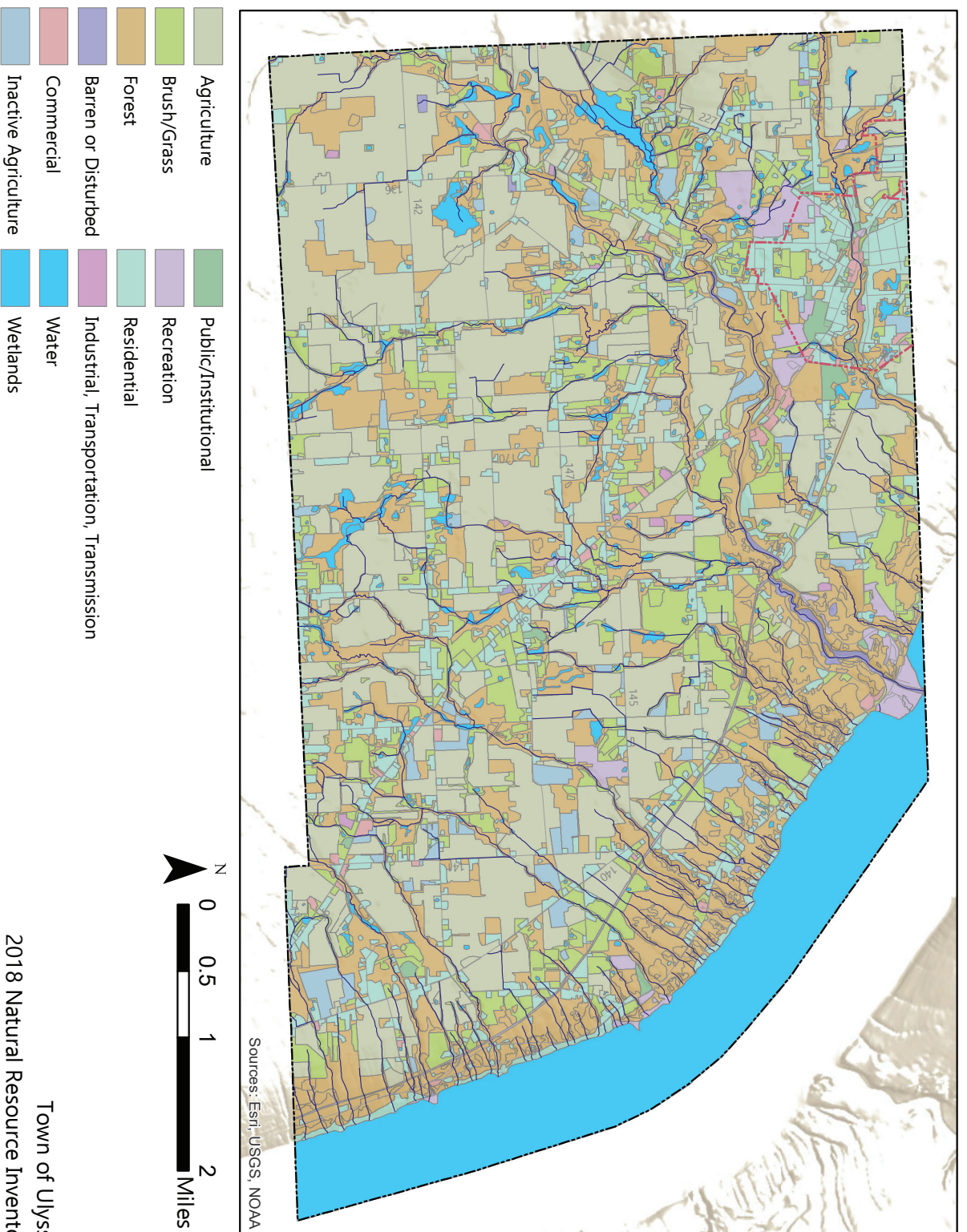
Cornell University Geospatial Information Repository (CUGIR), <https://cugir.library.cornell.edu/>

Cornell University Institute for Resource Information Systems (IRIS), <http://iris.css.cornell.edu/index.html>

Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>

# Land Use/Land Cover





# NATURAL HERITAGE SITES

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## What Is a Natural Heritage Site?

A Natural Heritage Site is a point or area representing specific natural resource information documented by the New York Natural Heritage Program. The goal of this program, a joint venture of the New York State Department of Environmental Conservation (DEC) and The Nature Conservancy (TNC) since 1985, is to compile and maintain an up-to-date inventory of the location and status of New York State's rarest animal and plant species and its ecological communities. As of 2017, the Natural Heritage Program monitors the status of 802 rare plant species, 466 rare animal species, and 179 ecological community types in New York State.

## Why Are Natural Heritage Sites Important?

The databases maintained by the New York Natural Heritage Program can assist in identifying threatened or endangered species and ecological communities in Tompkins County. This knowledge can be incorporated into planning, conservation, and natural resources management to help conserve the plants, animals, and ecological communities that represent the County's natural heritage. Though not a requirement of the State Environmental Quality Review Act (SEQRA), the Natural Heritage Program will search its databases upon request for proposed actions subject to SEQRA review.

## Natural Heritage Sites in Ulysses

Currently, the Natural Heritage Program databases lists 8 rare plant species, 3 rare animal species, and 4 significant ecological community types in Ulysses. For information concerning the data, or to request site specific information, contact the New York Natural Heritage Program.

## Maps and Data

The map on page 53 shows significant natural communities and rare plants and animals in the Town of Ulysses. This data was provided by the following source: New York Natural Heritage Program, SUNY College of Environmental Science and Forestry. January, 2018. Element Occurrence Spatial Data Set. Albany, New York.

Information on the status and distribution of rare and endangered animals and plants, and the best examples of New York State's ecological communities, is collected, stored, and analyzed in databases maintained by the Natural Heritage Program. This information has been assembled from historical records and collections maintained by scientific institutions such as the New York State Museum, and from field surveys by staff from the New York Natural Heritage Program and other scientific groups.

Neither site-specific nor comprehensive surveys for rare species and significant natural communities have been conducted for the entire state. Therefore, these data cannot be relied on as a definitive statement of the presence or absence of rare species or significant ecological communities, and cannot be substituted for on-site surveys that may be required for environmental assessment.

## Resources and References

New York Natural Heritage Program, SUNY College of Environmental Science and Forestry. January, 2018. Element Occurrence Spatial Data Set. Albany, New York.

New York State Department of Environmental Conservation

Division of Fish and Wildlife, <http://www.dec.ny.gov/about/634.html>

Division of Marine Resources, <http://www.dec.ny.gov/about/796.html>

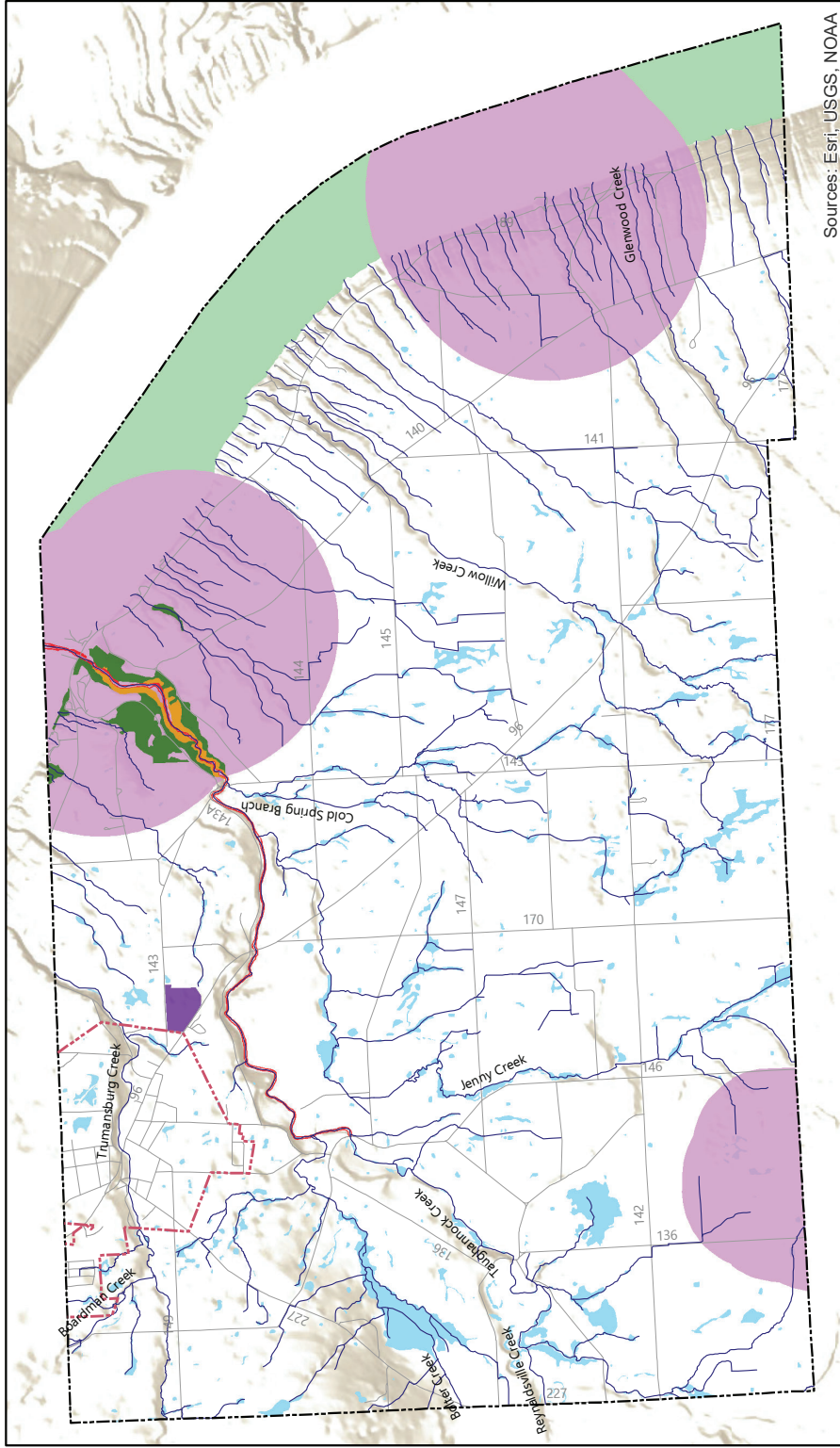
List of Endangered, Threatened and Special Concern Fish & Wildlife, Species of New York State, <http://www.dec.ny.gov/animals/7494.html>

New York Natural Heritage Program, <http://www.dec.ny.gov/animals/29338.html>

Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>

# Natural Heritage Sites





# UNIQUE NATURAL AREAS

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## What Is a Unique Natural Area?

The Unique Natural Areas (UNAs) of Ulysses are sites with outstanding environmental qualities, as defined by the Tompkins County Environmental Management Council, that are deserving of special attention for preservation and protection. UNAs include such natural features as gorges, woods, swamps, fens, cliffs, and streams. They lie on both publicly and privately owned lands, and anyone wishing to visit a site on private land must obtain permission from the owner or owners.

## Why Are Unique Natural Areas Important?

Unique Natural Areas are recognized because of the outstanding qualities that render them “unique” within Tompkins County. Often, the characteristics that make a site unique are extremely vulnerable to a wide range of both direct and indirect impacts and may be compromised by disturbing the site. For this reason, the UNA Inventory incorporates an array of data that can be utilized in planning efforts to help identify and mitigate potential impacts to a UNA.

## What Are the Criteria for a Unique Natural Area?

At least one of five criteria must be met to classify an area as a UNA:

1. **Important Natural Community:** the site includes a state-designated wetland, a designated natural area/preserve, historical botanical/zoological characteristics, important teaching characteristics, an old-growth forest, a plant or animal community type that is rare or scarce in the County, diverse flora or fauna, a birding site, and/or a wilderness character.
2. **Quality of Example:** the site is considered the best representative, for example, of an ecosystem, plant community, or animal community of high quality within the County. These sites typically contain especially large individuals, dense populations, and/or a particularly diverse mixture of species.
3. **Rare or Scarce Plants or Animals:** the site contains plant or animal species that have been recognized as rare or scarce at a national, state, or local level; has critical migration, reproductive, or feeding habitat for rare or scarce animal species; and/or has reports of large mammals.
4. **Geological Importance:** the site includes a rare or outstanding example of geological features or processes and/or a paleontological site.
5. **Aesthetic/Cultural Qualities:** the site contains acknowledged outstanding natural or scenic beauty as viewed from within or from a distance, has recreational value, is designated as urban greenspace, and/or has cultural/historic/archeological significance.

## Unique Natural Areas in Ulysses

The Town of Ulysses contains eleven UNAs amounting to 1598 acres, or 6.71% of the municipality. Table 11 provides more information about the UNAs in Ulysses.

Table 11: Unique Natural Areas in Ulysses

UNA Name	Acres	% of municipality
DEC Mapped Wetland (Code ME1)	54.6	0.2%
DEC Mapped Wetland (Code TW1)	46.6	0.2%
Frontenac Creek Glen	27.6	0.1%
Glenwood Ravine and Lake Slopes	238.9	1.0%
Hart's Woods	234.5	1.0%
Indian Creek Gorge and Lake Slopes	261.1	1.1%
Maplewood Glen and Lake Slopes	204.1	0.9%
Poyer Orchard Diatrema	1.4	0.01%
Smith Woods	33.4	0.1%
Taughannock Gorge	456.7	1.9%
Willow Creek Glen and Lake Slopes	273.6	1.2%
	<b>1598</b>	<b>7.71%</b>

## Maps and Data

The following map shows the location and names of the eleven UNAs in Ulysses. The data for this map was provided by the Tompkins County GIS Division and was last updated in 2017. Information available for each UNA includes the reason for selecting the site, special land use information, adjacent land use data, vulnerability of the site, vegetation cover types, ecological communities, rare, threatened or endangered species, geologic and water features, slope, and soils. This information is available from the Town of Ulysses and the Tompkins County Planning Department.

## Resources and References

Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>

Tompkins County Unique Natural Areas, <http://www.tompkinscountyny.gov/emc/educational-materials>





# PROTECTED OPEN SPACE

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## What Is Protected Open Space?

In Tompkins County, some open space is protected by various public and private organizations, namely the Finger Lakes Land Trust, the Nature Conservancy, Cornell University, the National Audubon Society, and the Cayuga Nature Center. Reasons for protecting land range from protection of species and natural resources to preserving land for research. New York State also protects land as State Forests, Parks, and Wildlife Management Areas.

## New York State Parks in Ulysses

New York State owns public lands throughout the state. Because they are owned by the State, all citizens have access to the lands. These lands include state forests, state parks, and wildlife management areas. State forests are managed by the DEC and include reforestation areas, multiple-use areas, unique areas, and state nature and historic preserves. State forests can be used for recreational purposes or for managing ecosystem health and protecting rare, threatened, and endangered species. State parks serve similar purposes but are not limited to forest ecosystems.

Parks are managed by the New York State Office of Parks, Recreation, and Historic Preservation, primarily for recreation and tourism. These lands often contain outstanding natural or historic resources. Permitted uses, such as hunting, fishing, biking, camping, ATV, and snowmobile and horseback riding, vary from park to park.

In Ulysses, there are two state parks, no state forests, and no wildlife management areas.

Taughannock Falls State Park is located in Ulysses and has dramatic gorges, swimming, camping, hiking, and picnicking facilities as well as a marina and boat launch. The falls is in a gorge 400 feet deep and features a 215-foot plunge, making it taller than Niagara Falls. The Black Diamond Trail, completed in 2016, connects the City of Ithaca to Taughannock Falls. It follows a scenic 8.5-mile segment of an old rail line that once connected New York City to Buffalo. Visitors can walk, bike, or cross-country ski the trail, which begins/ends next to Cayuga Lake, meanders through forests, passes by farms, and runs through ravines.

## What Are the Finger Lakes Land Trust Preserves and Conservation Easements?

The Finger Lakes Land Trust Preserves and Conservation Easements are tracts of land protected by a private, non-profit organization, the Finger Lakes Land Trust (FLLT). Each of the FLLT's preserves and conservation easements is monitored by volunteers. Preserves are areas of significant natural resources that are owned outright by the FLLT, while conservation easements are voluntary agreements that allow a landowner to limit the type or amount of development on their property while retaining private ownership of the land. The easement is signed by the landowner, who is the easement donor, and the FLLT, who is the party receiving the easement. Both preserves and easements are managed by the FLLT to help preserve the natural integrity of the Finger Lakes Region, and, in the case of its nature preserves, for education, research, and quiet forms of recreation, such as hiking and bird watching.

## Finger Lakes Land Trust Preserves and Conservation Easements in Ulysses

The only Finger Lakes Land Trust Preserve in Ulysses is the Lauman Preserve, which is only accessible for education and research activities. It spans 6 acres. In total, the Land Trust holds 28 easements on approximately 1,674 acres of land throughout Tompkins County.

## What Are Important Bird Areas?

The National Audubon Society, with the support of the American Bird Conservancy, initiated the New York Important Bird Areas (IBAs) Program in the spring of 1996. Designation of an area as a significant bird habitat under the IBA Program requires that the site satisfy at least one of the following criteria:

- Site contains a concentration of birds in significant numbers when breeding, in winter, or during migration;
- Site supports a population of a species that is endangered, threatened, or of special concern;
- Site contains assemblages of species characteristic of a representative rare, threatened, or unique habitat; or
- Long-term avian research or monitoring occurs on the site.

Across New York State, 127 IBAs have been identified. Furthermore, in 1997, New York State passed a law allowing IBAs located on state land to be designated as Bird Conservation Areas.

## Important Bird Areas in Ulysses

Because Cayuga Lake is an IBA, Ulysses contains part of an IBA. Cayuga Lake supports a very diverse bird community, providing important bird habitat to migrating and wintering waterfowl (at least 37 species of ducks and geese) and rare and endangered species. Of state protected bird species, one endangered (black tern), two threatened (pied-billed grebe and common tern), and two of special concern (common loon and osprey) are known to use Cayuga Lake and the Cayuga Basin for wintering, migratory, or breeding habitat.

## What Is the Cayuga Nature Center?

The Cayuga Nature Center is an educational nature preserve run by the Paleontological Research Institution. It is a nonprofit venue that the public can visit to learn more about the natural environment of Tompkins County. In addition to its primary location near Cayuga Lake, the Cayuga Nature Center also manages Smith Woods, which offers a public loop trail through an old-growth forest.

## Why Are These Preserves, Conservation Easements, Natural Areas, and State Lands Important?

Nature preserves, conservation easements, natural areas, and state lands protect important landscapes from development and uses that may damage their natural features. These lands protect key plant and animal species and their habitats, protect watersheds and the quality of water in the area, and provide recreational opportunities to everyone. They also add economic value to

their surrounding areas by enhancing tourism and increasing land values. In addition, they provide important educational opportunities for teaching about botany, natural history, entomology, etc. Although municipal governments do not have direct control of these lands, they may be able to use them in their planning efforts to create greenways, biological corridors, and recreational trails.

New York State WMAs and Forests are also utilized for logging. Logging in State Forests are monitored by the DEC to ensure that trees of varying sizes and ages are left for future generations. The focus of logging activities in WMAs is to manage habitat and provide a diversity of vegetation types and wildlife species.

The IBA Program is important for avian conservation because it identifies significant bird habitats so that others may protect those lands. Many avian species have distinct life history requirements and/or habitat needs that are fulfilled by the qualities of IBAs. The IBA program informs local citizens and governments about these unique areas and encourages local voluntary conservation efforts.

## Maps and Data

The map on page 61 shows state parks, the Finger Lakes Land Trust's Lauman Preserve, Cayuga Nature Center properties, archaeological sites, community parks, and municipal parks. This data was available from the Tompkins County Open Data Portal under the name "GenForestPark." Additional GIS data on Important Bird Areas was provided by the National Audubon Society of New York. There are no Cornell Natural Areas or Nature Conservancy Preserves in the Town of Ulysses.

For a map of this information, in paper or digital format, contact the Tompkins County Planning Department. For information on Finger Lakes Land Trust Preserves and Conservation Easements, contact the Finger Lakes Land Trust. For information on the Nature Conservancy Preserves, contact the Nature Conservancy. For information on Cornell Natural Areas, contact the Cornell Botanic Gardens.

## Resources and References

Cornell University, Cornell Botanic Gardens, Natural Areas, <http://www.cornellbotanicgardens.org/our-gardens/natural-areas>

Finger Lakes Land Trust

Find a Preserve, <http://www.fllt.org/learntheland/preserves/>

About the Finger Lakes Land Trust, <http://www.fllt.org/about/>

National Audubon Society of New York, Important Bird Areas, <http://www.audubon.org/important-bird-areas/state/new-york>

The Nature Conservancy, Places and Preserves, Central & Western New York, <https://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/newyork/places-preserves/central-western-new-york-preserves.xml>



New York State Department of Environmental Conservation

State Forests, <http://www.dec.ny.gov/lands/40672.html>

Wildlife Management Areas, <http://www.dec.ny.gov/outdoor/7768.html>

New York State Department of Parks, Recreation and Historic Preservation, <https://parks.ny.gov/>

Paleontological Research Institution

Cayuga Nature Center, <http://www.priweb.org/index.php/education/cayuga-nature-center>

Citizen Science Program, <http://www.priweb.org/index.php/education/citizen-science-education>

Education Projects and Programs, <http://www.priweb.org/index.php/education/education-projects-programs>

Programs, <http://www.priweb.org/index.php/education/cayuga-nature-center/programs>

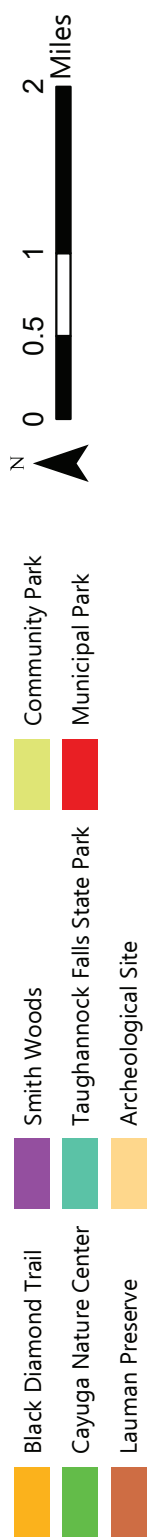
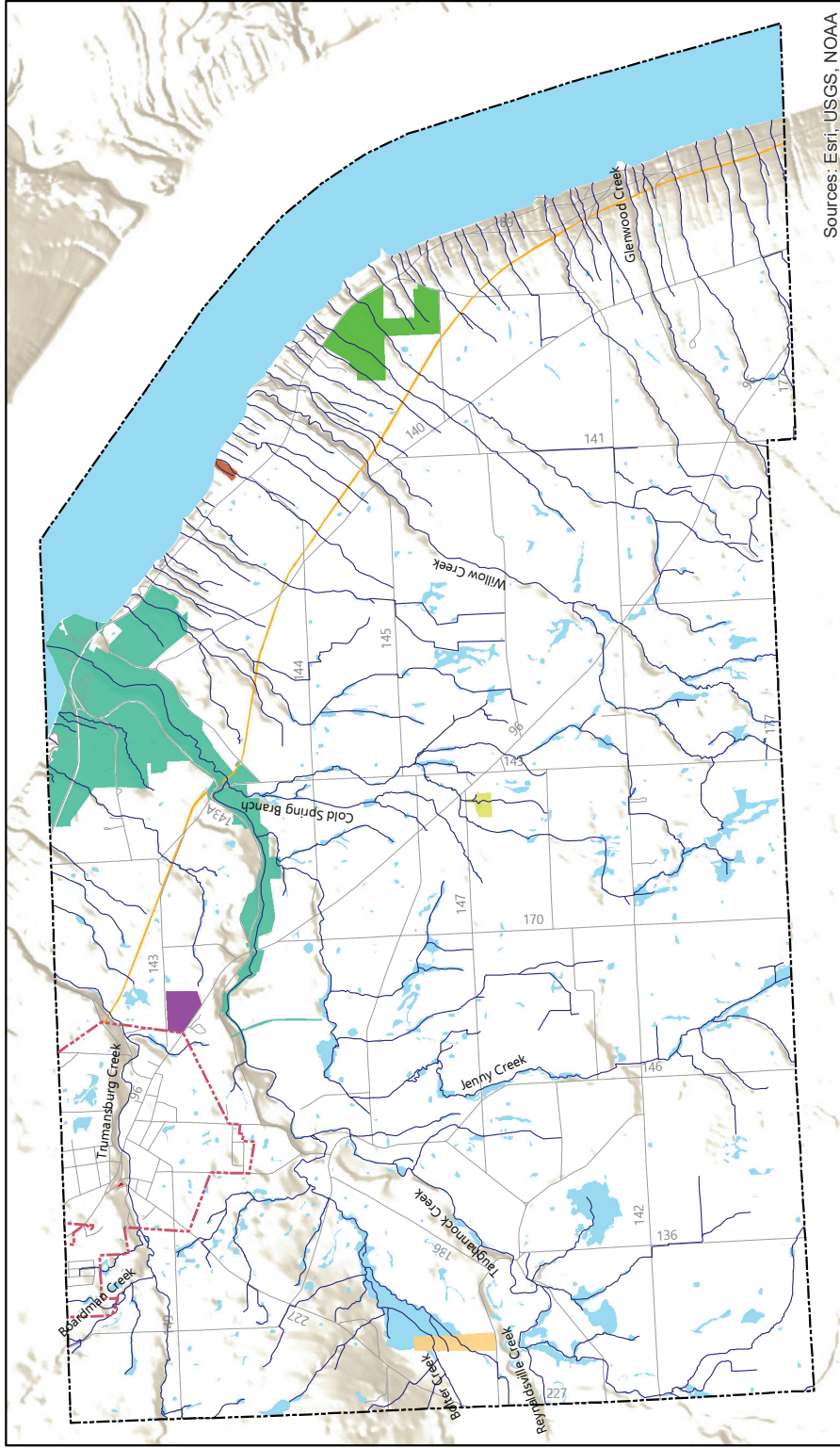
Smith Woods, <http://www.priweb.org/index.php/education/ed-smithwoods>

Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

Tompkins County Parks and Trails Network, Tompkins County Planning Department in conjunction with the Town of Ulisses and the Tompkins County Tourism Program, <https://ithacatrails.org/>

Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>

# Open Space



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# SCENIC RESOURCES

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## What is a Scenic Resource?

A scenic resource is an “area of intense visual appeal,” both natural and humanmade. In 2007, Tompkins County created an inventory of scenic resources based on public input. This process resulted in categorization of scenic resources into three categories: Distinctive Views, Noteworthy Views, and Characteristic Views. Distinctive views are those that “make a clear, unmistakable impression;” noteworthy views are those that “are worthy of attracting attention, and are better than many of the scenic views in the County;” and characteristic views are scenic views that are seen frequently that are characteristic of the County.

## Scenic Resources in Ulysses

The Town of Ulysses has 58 documented views, some of which were selected as Distinctive, Noteworthy, or Characteristic Views. These 58 views comprise 9.8% of all views in the County. Of the 25 Distinctive Views in the County, three are in Ulysses. These are a view of Taughannock Creek gorge from a trail in Taughannock Falls State Park, a view west of Taughannock Falls on another trail in Taughannock Falls State Park, and the overlook of the falls at Taughannock Falls State Park.



Distinctive View 1: View of Taughannock Creek Gorge  
Source: Tompkins County Scenic Resources Inventory (2007), page 5





Distinctive View 2: View of bridge west of Taughannock Falls  
Source: Tompkins County Scenic Resources Inventory (2007), page 5



Distinctive View 3: Overlook at Taughannock Falls State Park  
Source: Tompkins County Scenic Resources Inventory (2007), page 6

Of the 30 Noteworthy Views, three are located in Ulysses. The first is along the shore of Cayuga Lake in Taughannock Falls State Park, and the second is a view looking out at Taughannock Creek and Cayuga Lake from the State Park. The final view is located along Waterburg Road almost half a mile from its intersection with Iradell Road, which provides a scenic view of fields with hills rolling in the distance.



Noteworthy View 1: Cayuga Lake shoreline at Taughannock Falls State Park  
Source: Tompkins County Scenic Resources Inventory (2007), page 13





Noteworthy View 2: View of Cayuga Lake from Taughannock Falls State Park  
Source: Tompkins County Scenic Resources Inventory (2007), page 13



Noteworthy View 3: Fields with a view of rolling hills along Waterburg Road  
Source: Tompkins County Scenic Resources Inventory (2007), page 14



Characteristic Views were discussed more generally. These views were grouped out of the remaining inventory, though some views remained uncategorized. The inventory lists 45 examples across ten categories. Of these 45 views, two are in Ulysses, though there are six total Characteristic Views in the Town of Ulysses. These are East Main Street in the Village of Trumansburg (selected as an example of a scenic settlement), and an example of a farm/field area along Iradell Road near the border of the Towns of Enfield and Ulysses.



Characteristic View 1: East Main Street in the Village of Trumansburg  
Source: Tompkins County Scenic Resources Inventory (2007), page 23



Characteristic View 2: Farm/Field area along Iradell Road  
Source: Tompkins County Scenic Resources Inventory (2007), page 24

### Why are Scenic Resources Important?

Scenic resources contribute to the day-to-day quality of life of Ulysses residents, as well as attract visitors to the area. They are a large part of what makes this region such a beautiful and desirable place to live, work, and visit. Documenting where these resources are makes it easier to protect and manage them. Scenic views can be protected through measures such as zoning ordinances.

### Maps and Data

The map on page 68 shows the locations of Distinctive, Noteworthy, and Characteristic Views in the Town of Ulysses, as well as views that were inventoried but did not fall under any of these three categories. Data was provided by the Tompkins County GIS Division.

### Resources and References

Tompkins County

Protecting Our Scenic Resources (2010), [http://www.tompkinscountyny.gov/files2/planning/nri/documents/ScenicResourcesProtectionDec2010\\_000.pdf](http://www.tompkinscountyny.gov/files2/planning/nri/documents/ScenicResourcesProtectionDec2010_000.pdf)

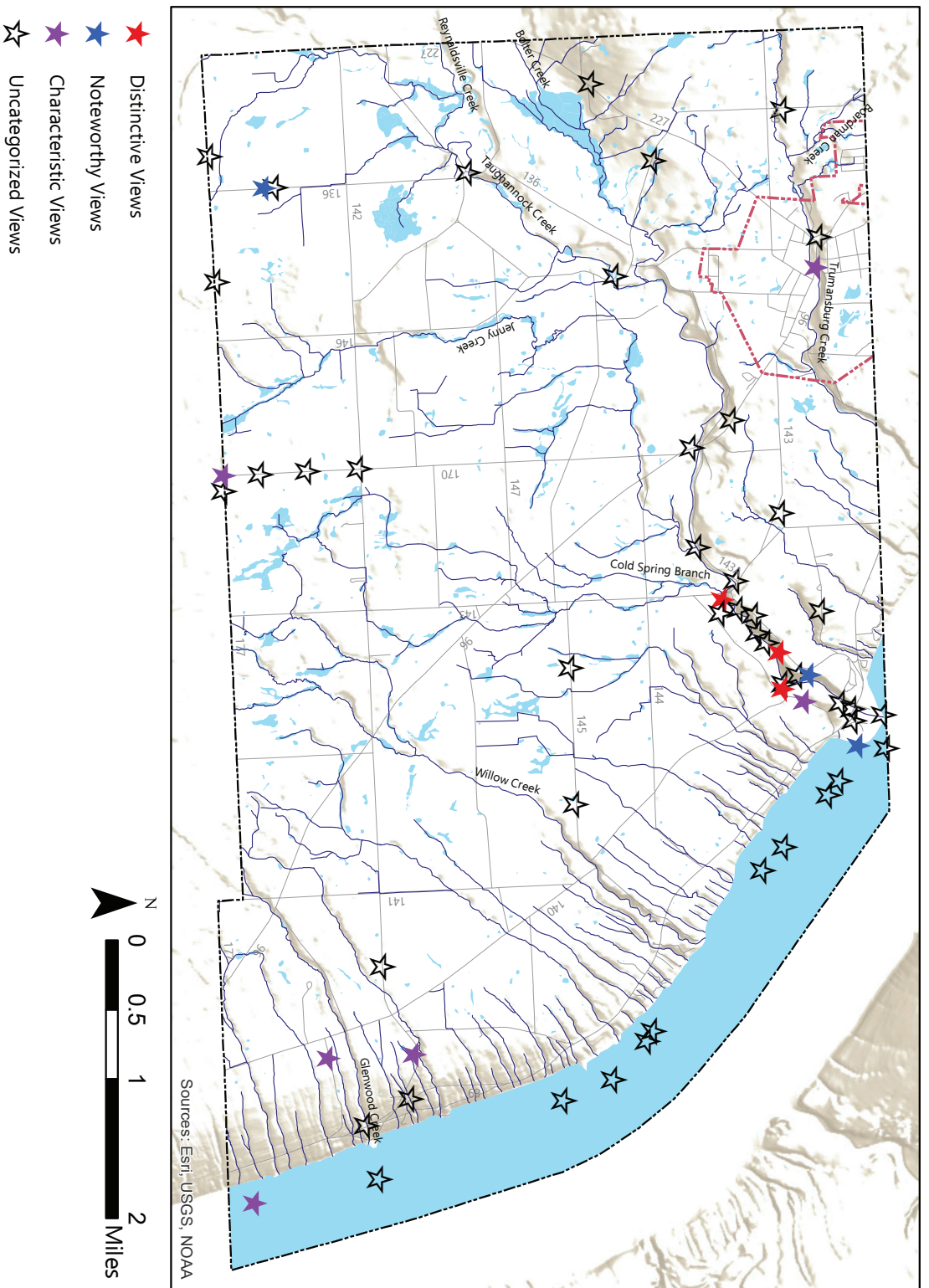
Scenic Resources, [http://www.tompkinscountyny.gov/planning/nri-scenic\\_resources](http://www.tompkinscountyny.gov/planning/nri-scenic_resources)

Tompkins County Scenic Resources Inventory (2007), prepared by Peter J. Smith & Company, Inc., <http://www.tompkinscountyny.gov/files2/planning/nri/documents/TCSRreportJan17.pdf>

Tompkins County GIS Division, <http://www.tompkinscountyny.gov/gis>

Tompkins County Planning Department, <http://www.tompkinscountyny.gov/planning>

# Scenic Resources



Town of Ulysses  
2018 Natural Resource Inventory



