

Montour Falls Natural Resources Inventory

Summer, 2019



New York State
Water Resources Institute



NYSERDA



Cornell University
Cooperative Extension
Tompkins County

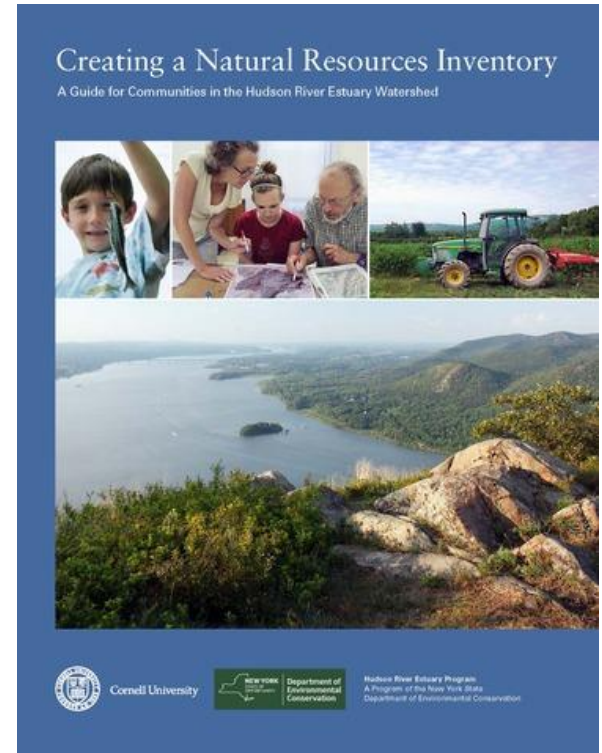
Introduction: What is a Natural Resource Inventory?

A NRI is a municipal planning document that **compiles and describes important naturally occurring resources** such as forests, wetlands, surface and ground waters, and farmland within a given locality (e.g., municipality, watershed, or region). - *NYSDEC*

The document is multipurpose and is used for land use, conservation, development, agriculture, and wildlife habitat protection.

Can provide guidance in terms of concentrating on areas of concern regarding flooding, contamination, and droughts.

Can **act as an informational resource** during municipal and larger regional planning efforts.



Introduction: The Village Montour Falls

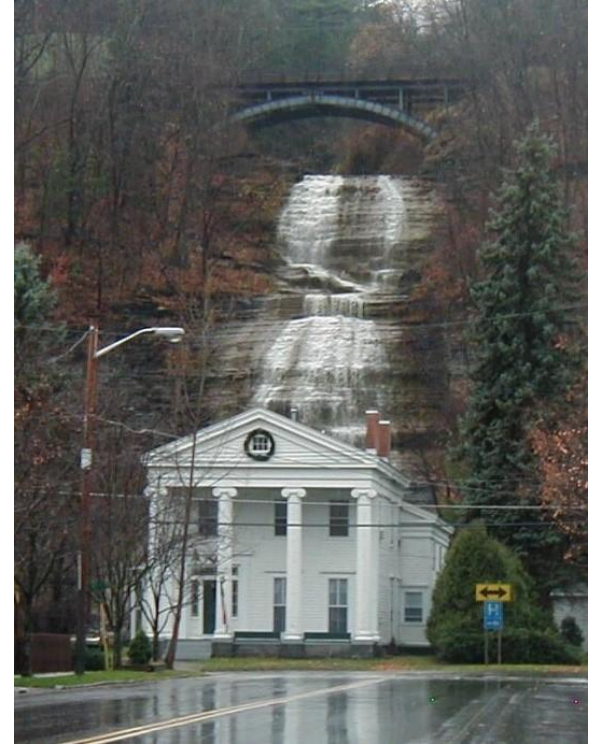
County: Schuyler

Municipalities: Within Town of Dix and Montour

Population: 1659 (2016), 1711 (2010 Census)

Area: 3 Square Miles

Notable natural features in surrounding Region: Shequaga Falls (depicted in adjacent picture) & Watkins Glen State Park



Changing Environment

Show me **Average Jun/Jul/Aug Temps** under **High emissions (RCP 8.5)** with a **Median** probability

Historical 1981-2010

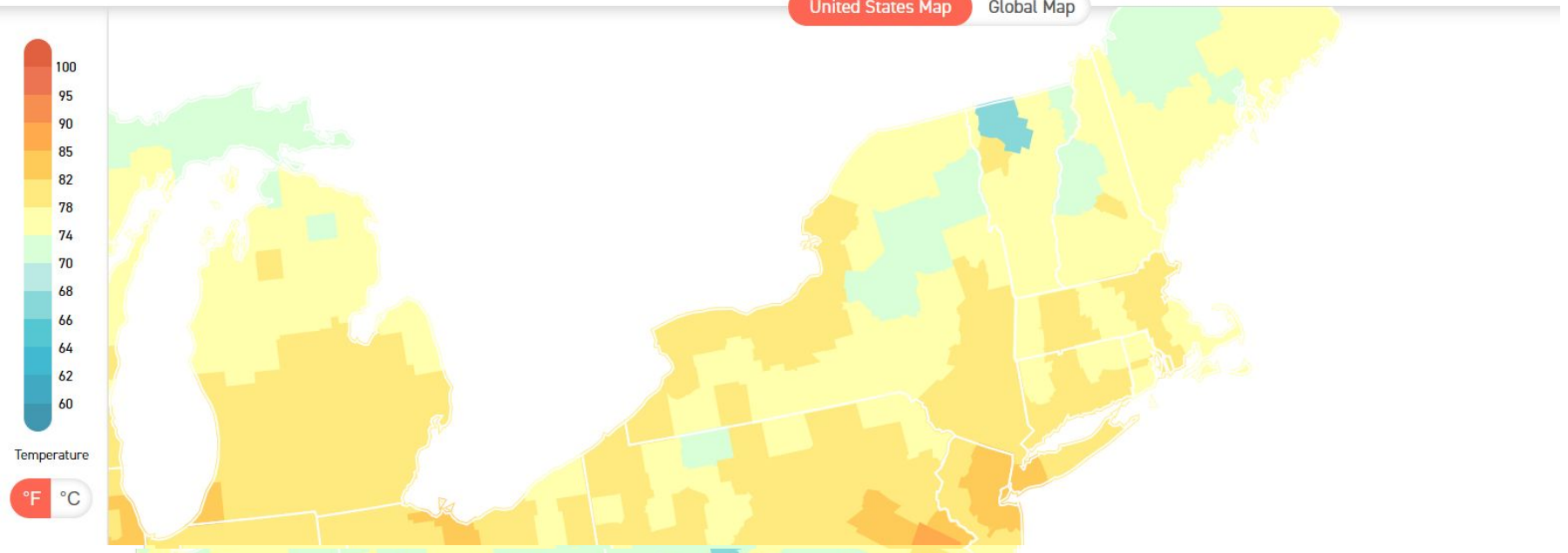
Next 20 Years 2020-2039

Mid-Century 2040-2059

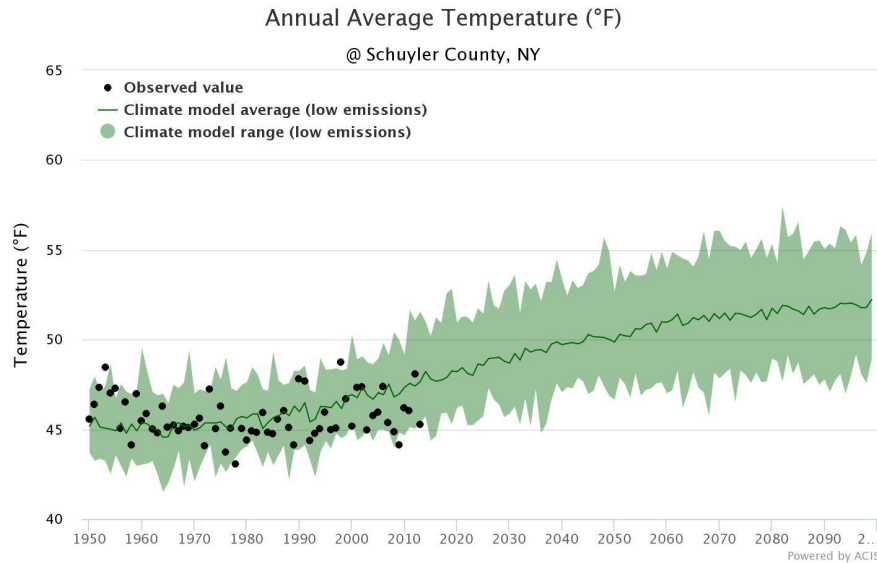
End of Century 2080-2099

United States Map

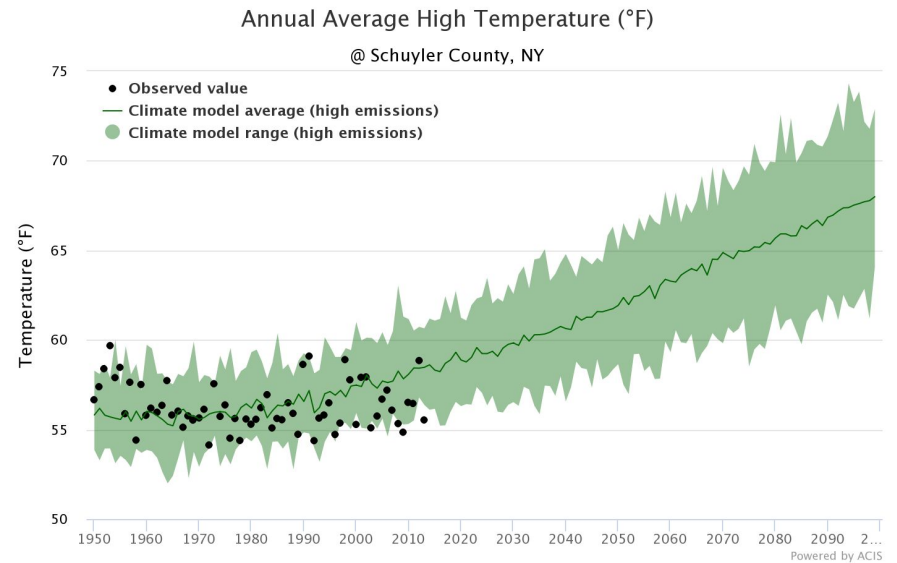
Global Map



Temperature Change in Region



Low Emissions Scenario



High Emissions Scenario

Changing Climate in Region

FingerLakes1.com

Home > News > Harmful algae bloom found on Seneca Lake

Harmful algae bloom found on Seneca Lake

Published: 08/23/2018 @ 05:20 am | Updated: 08/23/2018

The state Department of Environmental Conservation (DEC) announced the discovery of a Harmful Algal Bloom (HAB) in a water sample taken from Seneca Lake.

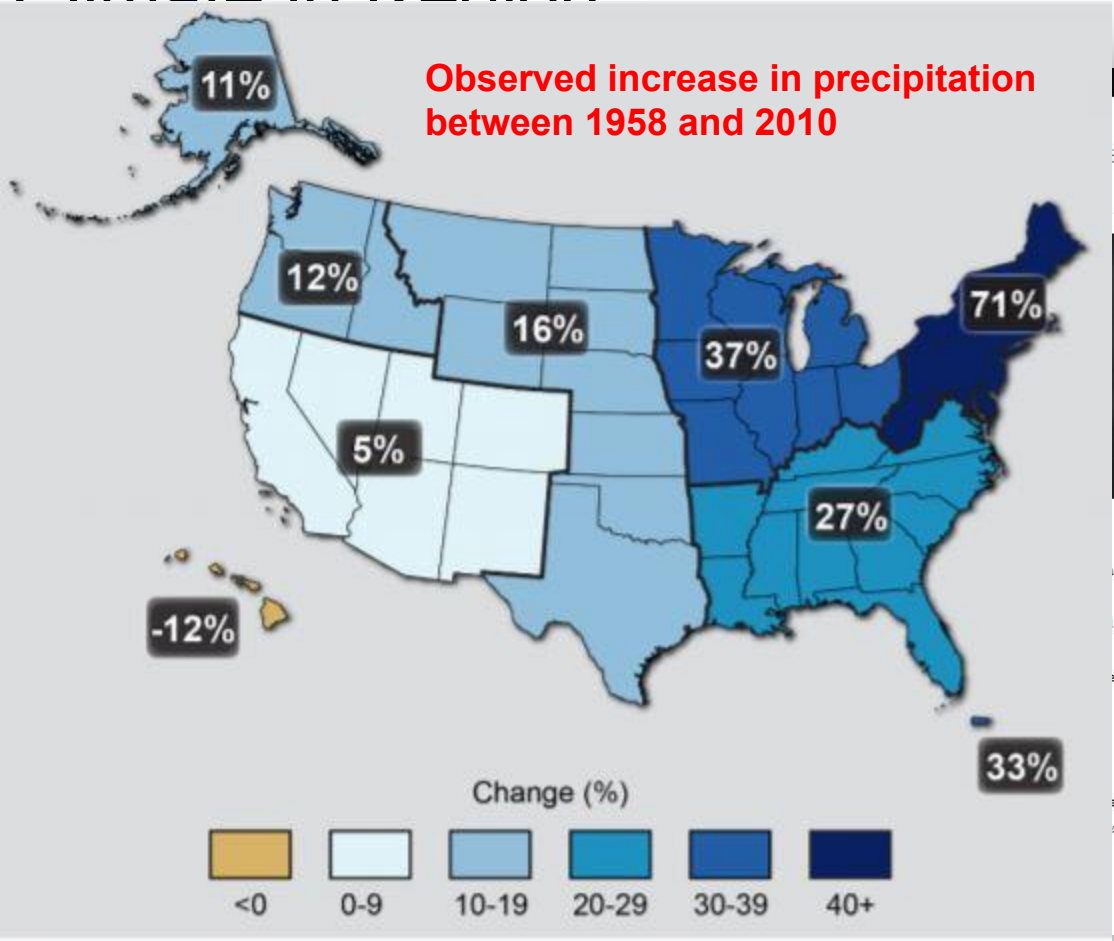
On Tuesday, Aug. 21, scientists at the Finger Lakes State University (SUNY) and the DEC that test results of a water sample taken from Seneca Lake exceeded the DEC confirmed bloom threshold of 100 cells per liter.

The HAB was small and localized in extent, according to the DEC. The sample was obtained from the water sample.



Seneca Lake Pure Waters Association organizes a monitoring program designed to identify and report harmful algal blooms. Similar shoreline monitoring program is also taking place.

"We are grateful to have the help of over 100 dedicated volunteers who monitor Seneca Lake and the well being of people who utilize the lake. We are grateful to have the help of over 100 dedicated volunteers who monitor Seneca Lake and the well being of people who utilize the lake. We are grateful to have the help of over 100 dedicated volunteers who monitor Seneca Lake and the well being of people who utilize the lake." - Frank DiOrto, Pure Waters' HAB Director



Peaceful waterfall into

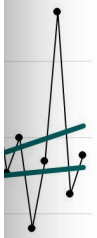
Most Read Local

1. During these five things could decrease your risk of Alzheimer's by 60 percent, new study says
2. Riverside Church unveils the call for the replacement of their historic steeple after two weeks following a new shop visit
3. Most Americans say no alternative for the District of Columbia, poll shows
4. The deadly race riot 'started and spread' by The Washington Post a century ago
5. The District's public school system faces \$22 million deficit, drawing attention

Post REPORTS

Latest articles
 "You do know the banjo is an African instrument, right?": The black roots of country music

Unprecedented recording? Recent insight: Clear analysis. Everything you've come to expect from the newsmen of The Post - for your news.



2010 powered by ACIS

Changing Climate in Region

- Other Changes that can be observed in the region are:

Droughts

Heat Waves

Invasive Species

Extreme Winter Storms



Climate Smart Communities

- The Climate Smart Communities program is just one program that has been working with communities throughout NY to become more resilient to changing weather.
- The Village of Montour Falls has been working towards becoming a certified Climate Smart Community during the Spring of 2019.
- This Natural Resource Inventory has been part of the CSC program.

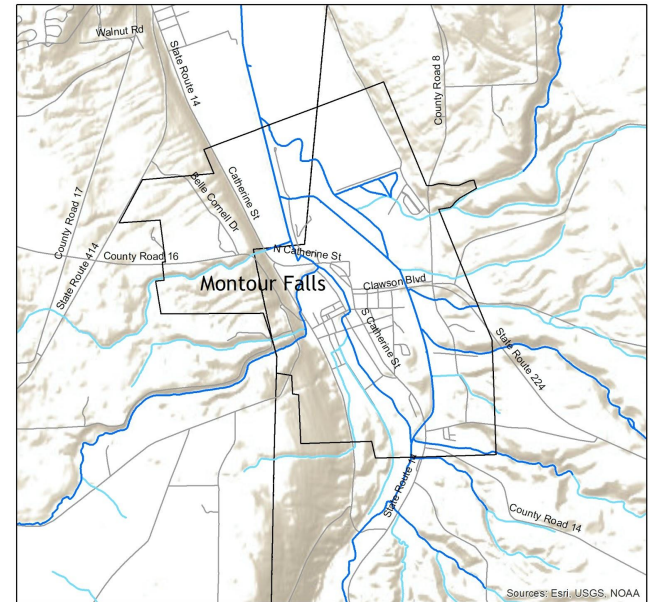


Section I

Hydrology

Water bodies

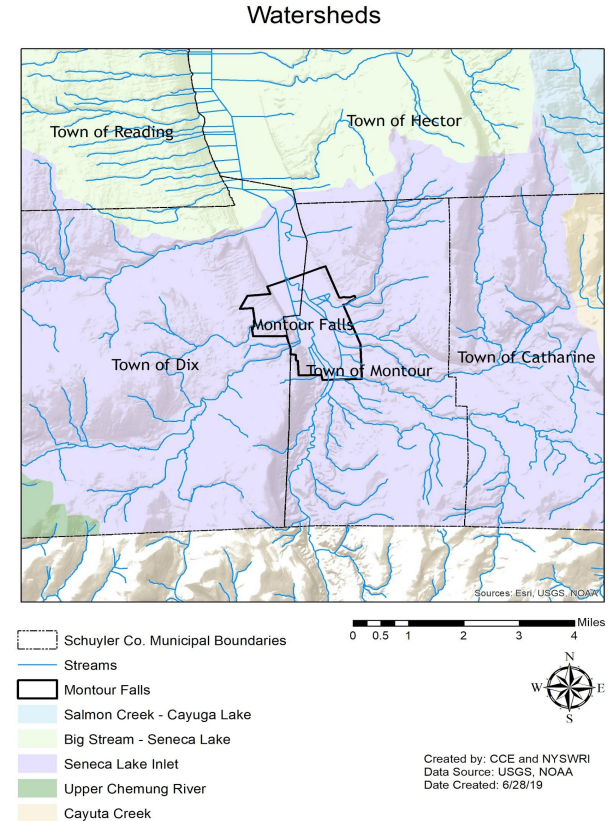
- Several DEC protected streams pass through the Village of Montour Falls
- DEC protected water bodies are rated on a scale from D, the lowest classification, to A and AA, which are water bodies suitable for drinking water
- All protected water bodies in Montour Falls are rated C, which is suitable for fishing
- Catharine Creek, Shequaga Creek, and Catlin Mill Creek are suitable for trout



Created By: CCE and NYSWRI
Data Source: USGS, NOAA
Date Created: 7/10/19

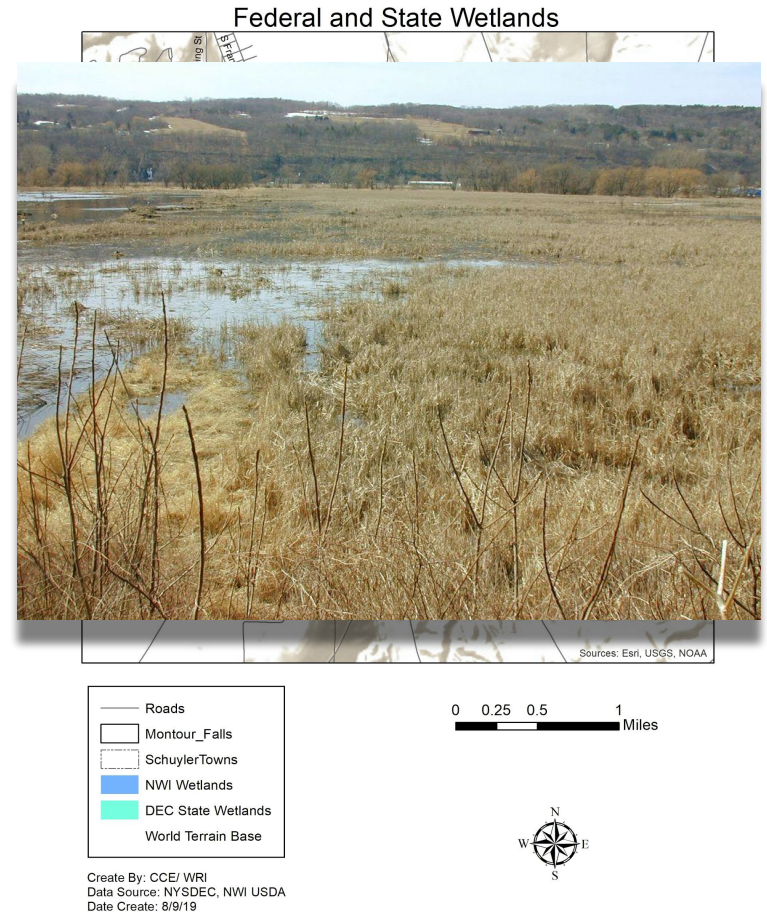
Watersheds

- The Village of Montour Falls lies entirely within the Seneca lake Inlet watershed
- Water that falls within the village ends up in Seneca Lake
- The Seneca Lake Inlet Watershed is 122 square miles in total
- Montour Falls is part of the greater Seneca-Oneida-Oswego River drainage basin, which ultimately drains into the Seneca River, north of Seneca Lake



Wetlands

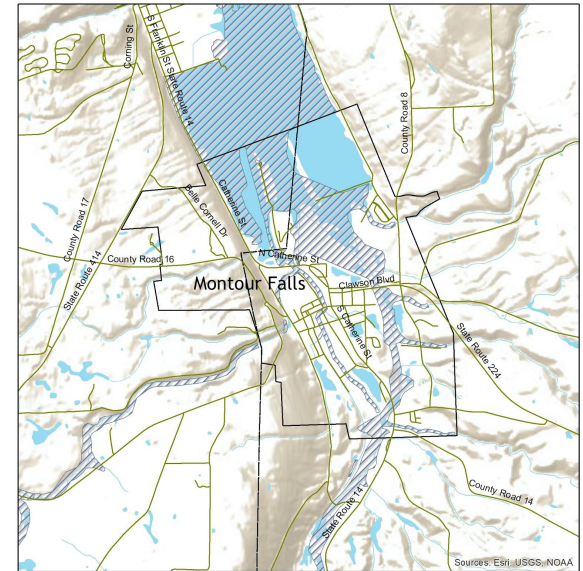
- Most of the Village is surrounded by Wetlands
- Largest Wetland: Catherine Creek Wildlife Management Area
- NYS Protected Wetlands: Wetlands which are protected under NYS; originally created in 1980 and updated as needed. Based on aerial imagery and soil/ elevation data - based on only larger WL.
- National Wetland Inventory: provide a more accurate image of existing wetlands and depict location of wildlife habitat



Floodzones

- Compared to the average NY municipality, Montour Falls is at higher risks of flooding.
- Unfortunately, these maps are out of date.
- Shequaga Falls and Queen Catherine Marsh may be a hazard during flood events
- Flood events will increase in frequency and intensity in the coming years due to climate change
- Risk is based on the amount of damage on buildings that can be caused during a storm.

100 Year Flood Zones

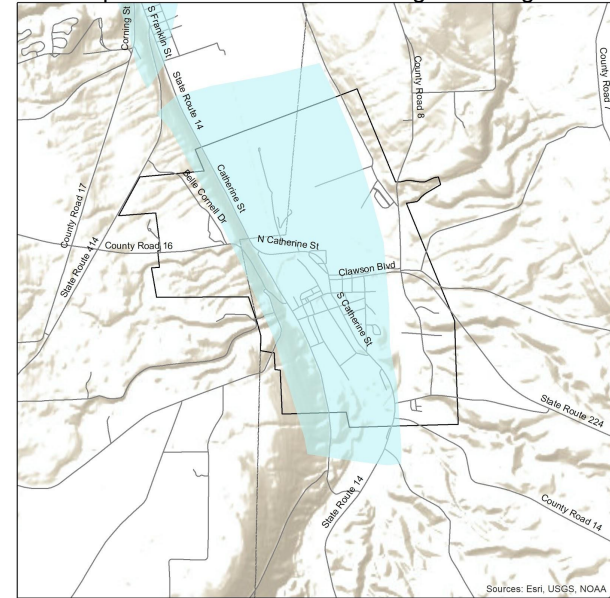


Created By: CCE and NYSWRI
Data Source: USGS, NOAA
Date Created: 7/5/19

Aquifers

- Aquifers are noteworthy since they are a primary source of drinking water.
- The Aquifers depicted in the map are categorized based on the amount of water that is produced
- Because the Village gets their municipal water from wells, protecting the aquifers depicted in the map are important to conserving the municipal water quality.

Aquifers within and surrounding the Village



Create By: CCE/ WRI
Data Source: NYSDEC, NWI USDA
Date Create: 8/9/19

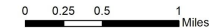
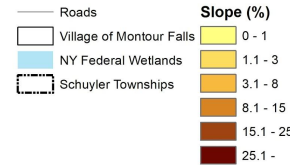
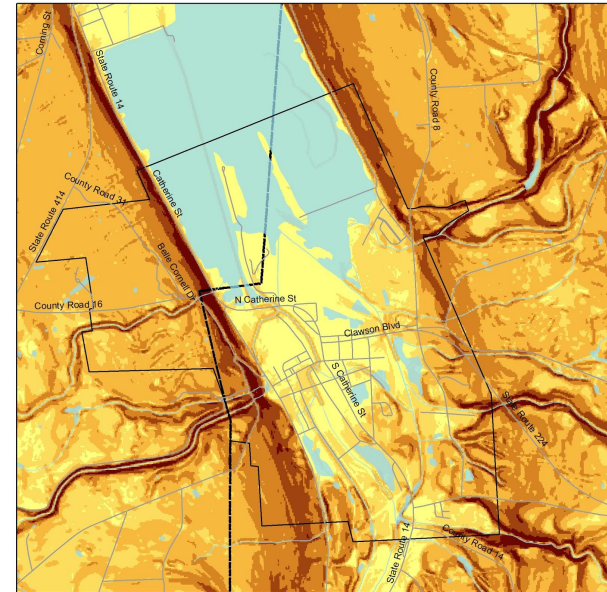
Section II

Geology and Soil

Slope and Topography

- The municipality's general topographic characteristics: Village is low lying, surrounded by steep slopes
- Because village is located in valley, and slope is close to non-existent between village and lake, water tends to accumulate in the village.
- The slope percentage categories are based on levels/ suitability for development
- Because of the village's topographic characteristics, reducing the amount of runoff through collaboration with upstream municipalities can significantly mitigate flooding.

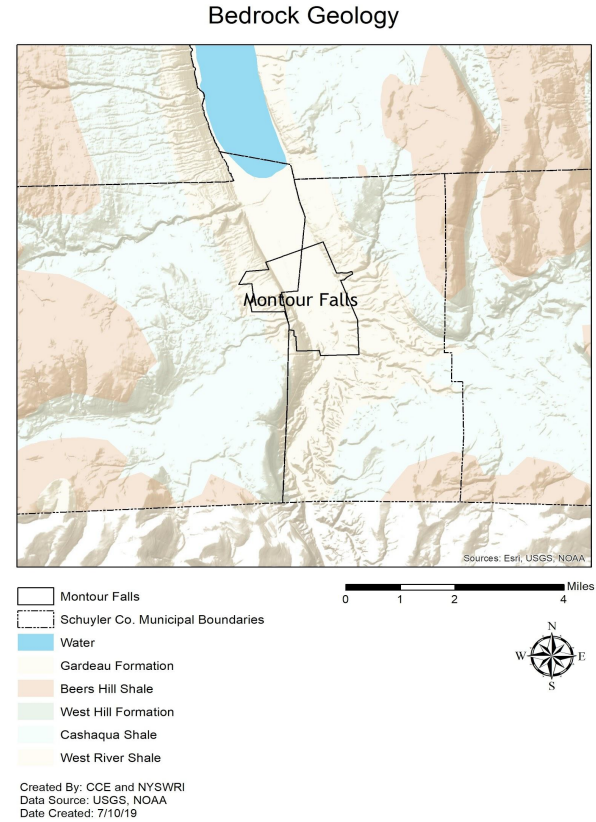
Montour Falls Slope



Created By: CCE Tompkins
Created on: 6/19/19
Data Source: NYS GIS Clearinghouse

Bedrock Geology

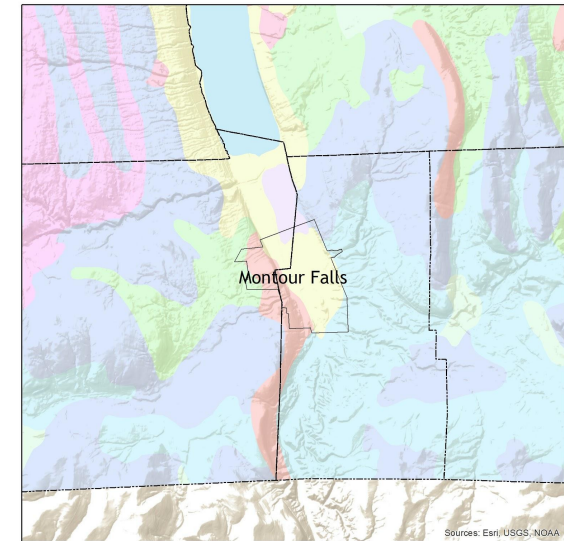
- Montour Falls lies entirely within the Gardeau Bedrock Formation
- The Gardeau Formation is made up of mostly shale and silt
- The formation is roughly 400 million years old



Surficial Geology

- Surficial Geology is the composition of surface deposits of rock and soil on the landscape
- There are six types of Surficial Geology in Montour Falls: Kame Deposits, Kame Moraines, Lacustrine Silt and Clay, Till, Bedrock, and Swamp Deposits
- Lacustrine Silt and Clay and Bedrock make up the majority of the surficial geology, making 58% and 25% of the total area of the Village

Surficial Geology



Montour Falls
Schuyler Co. Municipal Boundaries
Sources: Esri, USGS, NOAA
0 1.25 2.5 5 Miles

Geology Type

- Recent Alluvium
- Water
- Kame Deposits
- Kame Moraine
- Lacustrine Sand
- Lacustrine Silt and Clay
- Outwash Sand and Gravel
- Swamp Deposits
- Bedrock
- Till
- Till Moraine

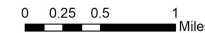
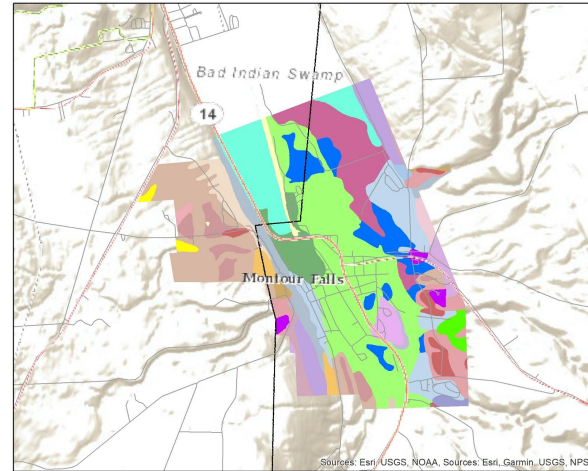


Created By: CCE and NYSWRI
Data Source: USGS, NOAA
Date Created: 7/5/19

Soils

- STATSGO is used for regional planning versus SSURGO used for detailed analysis.
- The data used in this map is STATSGO, or soil series which are combined together based on similar taxonomic characteristics.
- Data also includes information on soil drainage, prime farmland, hydric soils, an farmland of statewide importance.

Soil Series

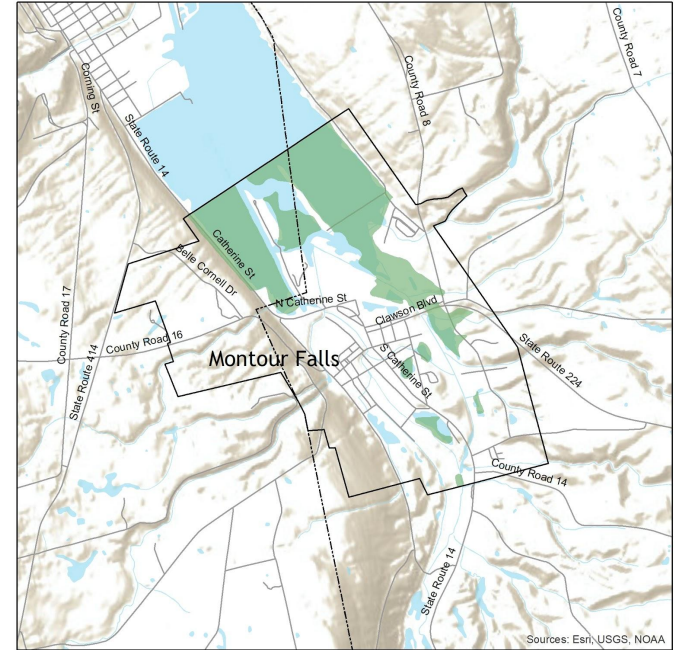


Data Source: CUGIR
Created By: CCE Tompkins/ WRI
Date Created: 7/1/19



Hydric Soils

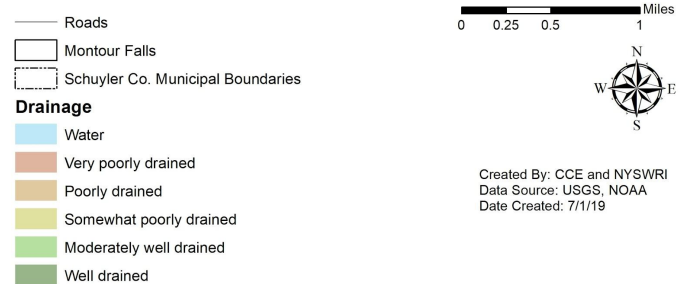
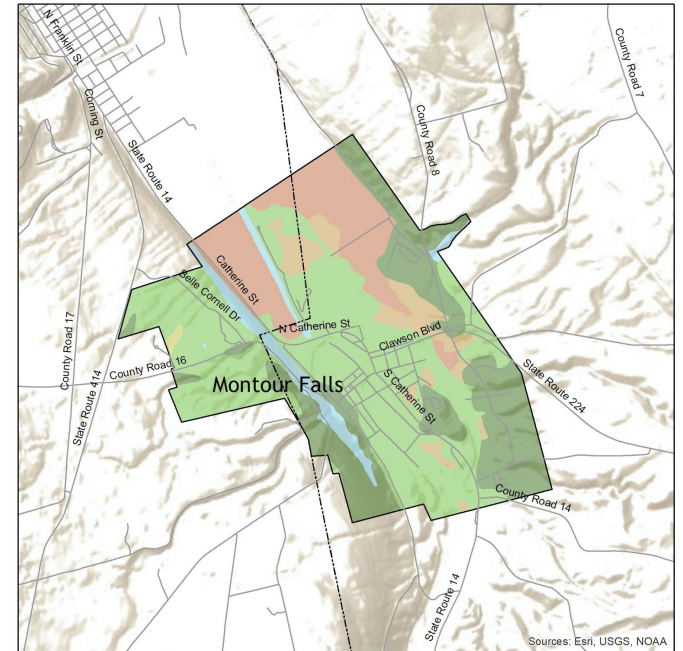
- Hydric soils are soils that remain saturated with water for a portion of time or permanently
- Hydric soils can only support certain types of vegetation due to the lack of oxygen in the soil
- Hydric soils within the Village of Montour Falls lie in the North of the village, near Queen Catharine Marsh



Created by: CCE and NYSWRI
Data Source: CUGIR, SSURGO, USGS, NOAA
Date Created: 7/2/19

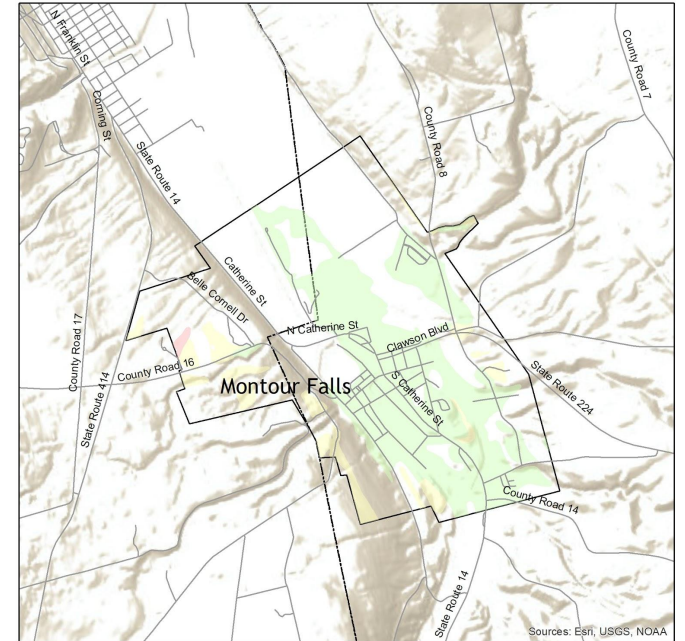
Soil Drainage

- Soil drainage is the ability for soils to drain water after rain, flood, or irrigation
- Much of the soil within the village drains well, with the exception being the marsh area to the North of the municipality
- Soil Drainage is important to understand given the increase in intense rainfall events due to global warming



Prime Farmland

- Prime Farmland is land that is designated by the USDA as especially suitable for agriculture
- Farmland of Statewide importance is land that does not meet Prime Farmland requirements but is still considered valuable by New York State



— Roads

0 0.25 0.5 1 Miles

Land Type

Prime Farmland

Farmland of statewide importance

Prime farmland if drained

Schuyler Co. Municipal Boundaries

Montour Falls



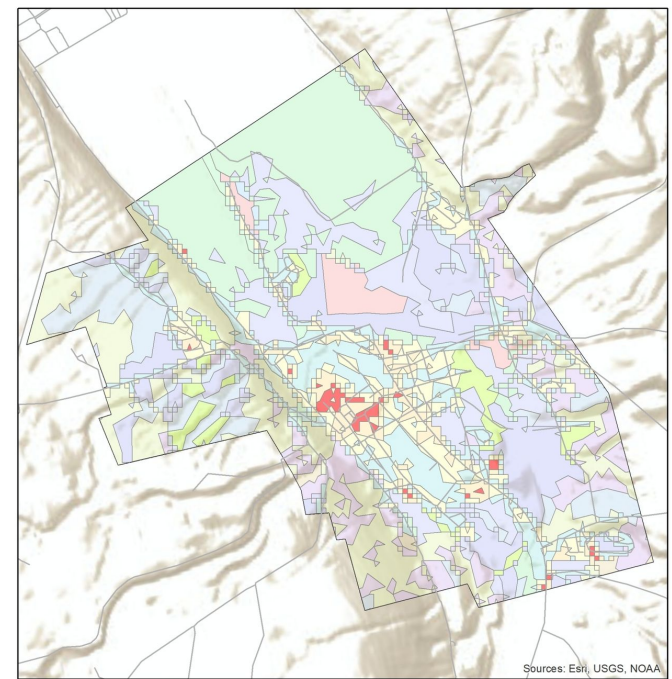
Created By: CCE and NYSWRI
Data Source: USGS, NOAA
Date Created: 6/28/19

Section III

Land Use & Protected Lands

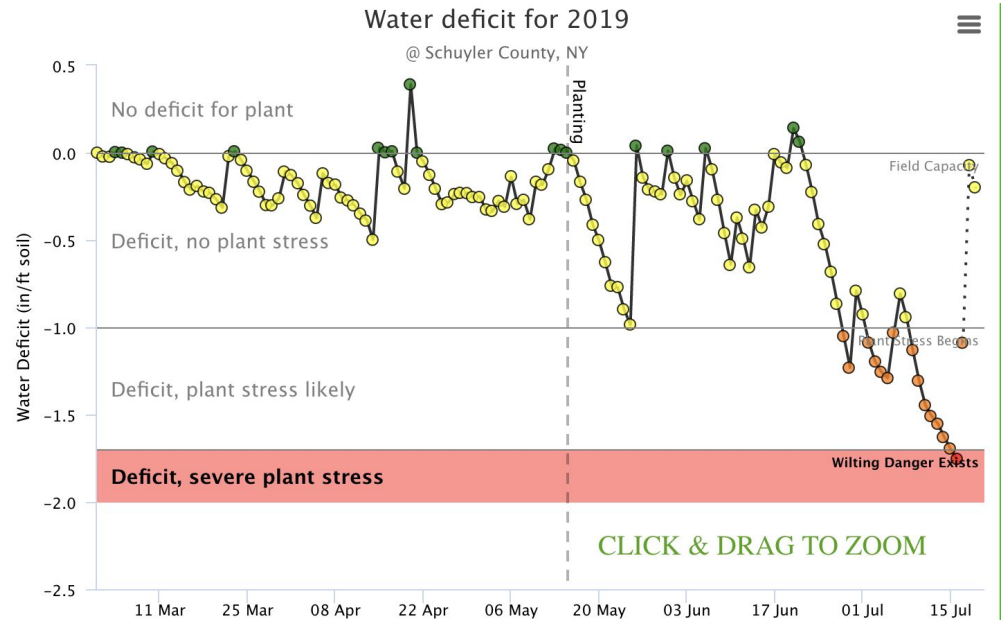
Village of Montour Falls Land Use & Land Cover

- Roughly 25% of the land in the Village of Montour Falls is wetland area
- Deciduous forests comprise of 20% of the land area
- Land used for cultivating hay and pasture comprise of 18% of the land



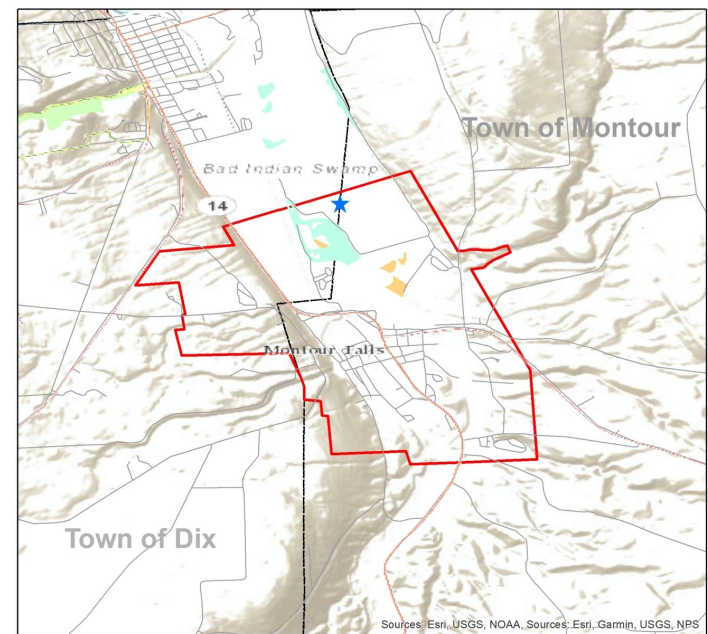
Agriculture Land Use

- 408 farms in Schuyler County
- Changes in drought, precipitation patterns, and temperature will have significant impacts



Natural Heritage Sites

- Natural Heritage Program is overseen by the New York State Department of Environmental Conservation
- Six natural heritage sites in Montour Falls



0 0.25 0.5 1 Miles

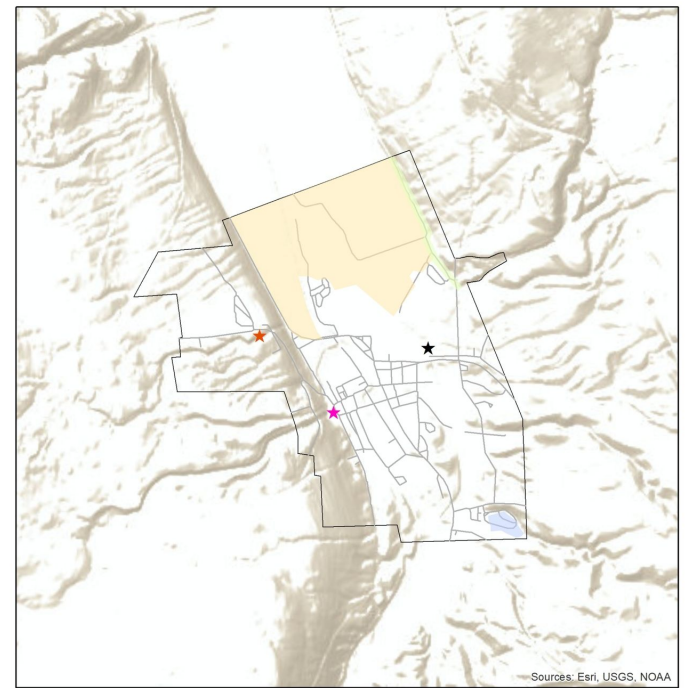


Data Source: CUGIR
Date Created: 6/24/19
Created by: NYSWRI



Significant Natural Sites

- Significant Natural Sites must have scenic and environmental qualities
- There are six significant natural sites in the Village of Montour Falls

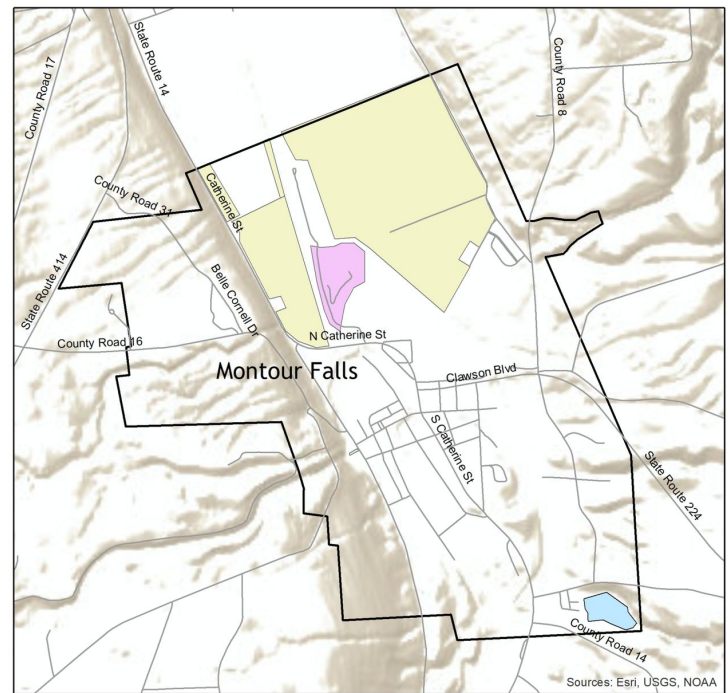


- ★ Shequaga Falls Park
- ★ Aunt Sarah's Falls
- ★ Catharine Creek
- Rock Cabin Road
- Havana Glen
- Queen Catharine Marsh
- Roads
- Montour Falls

2019 Montour Falls NRI
Created By: CCE and NYSWRI
Data Source: CUGIR, USGS, NOAA

Open Space

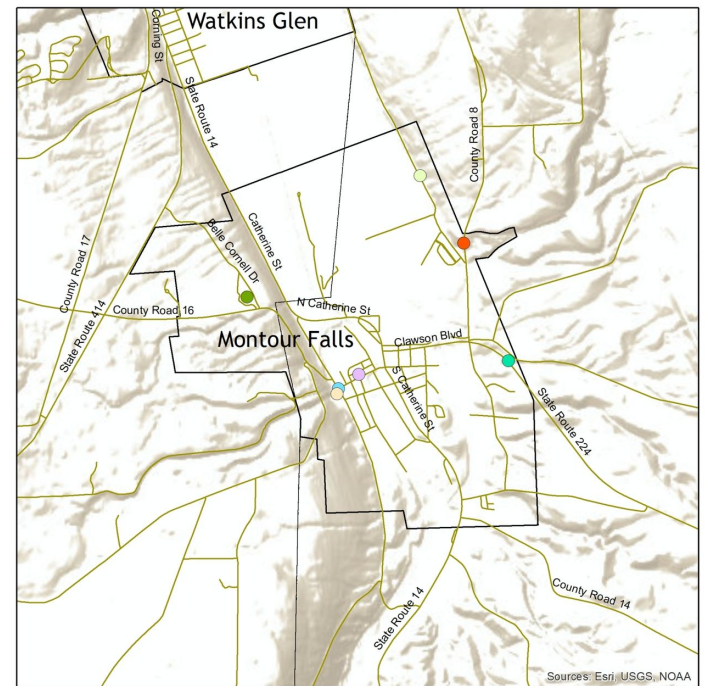
- Preservation of open space for recreational purposes
- Four protected land areas that are parks or wildlife management areas



Created By: CCE and NYSWRI
Data Sources: USGS, NOAA, Village of Montour Falls
Date Created: 6/27/19

Significant Viewsheds

- A significant viewshed is “the area on the ground, hills, water, and trees you can see from a given point.”
- There are seven significant viewsheds in Montour Falls



- Shequaga Falls
- Skyline Drive
- Rock Cabin Road
- Hospital Hill
- Route 224 Hill
- Pocket Park
- Glorious T Historic District
- SimplifiedStreetSegmentQrt
- ▭ Montour Falls
- - - Schuyler Co. Municipal Boundaries

0 0.25 0.5 1 Miles



Created by: CCE and NYSWRI
Data Source: USGS, NOAA, Google Earth
Date Created: 7/3/19

Summary

- The overarching goal of this NRI is to provide a better understanding of existing natural resources in the area.
- The document can be used and integrated when updating/ creating other planning resources such as the Village Comp. Plan, Natural Resource Management Plans, etc.
- The NRI also encourages intermunicipal collaboration, conservation of natural habitat, and development of green infrastructure to mitigate flooding.



Thank You

Questions?

**Questions for
Climate Smart Communities?**
Katherine Herleman - CCE Schuyler
kch227@cornell.edu
(607)535-7161

**Questions for potential funding
sources?**
Meredith Perreault - Environmental
Finance Center, Syracuse University
maperrea@syr.edu