

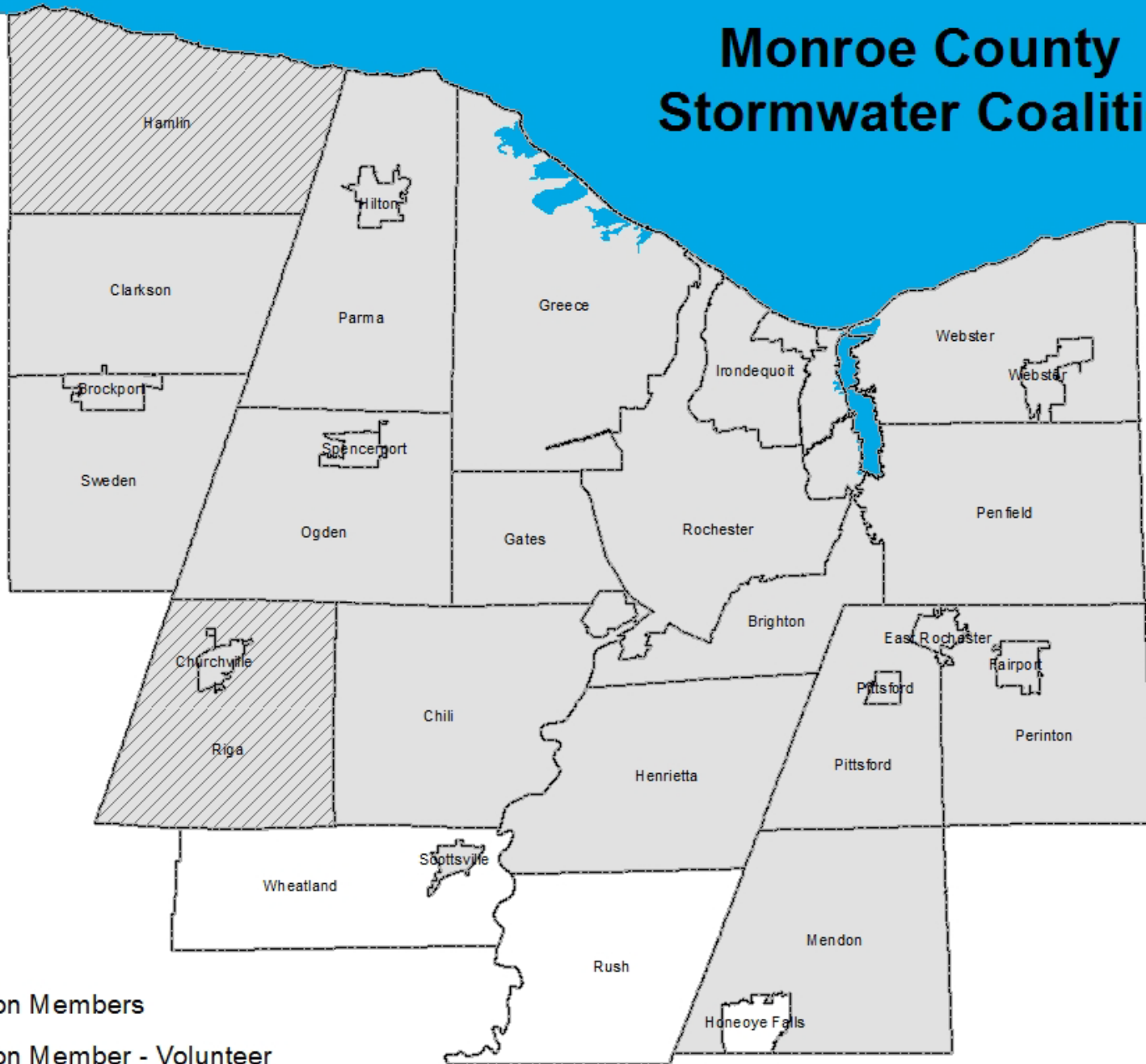
# **An Assessment Method for Determining Water Quality and Restoration Potential in an Urban Stream**

*Understanding and Managing Floodplains for  
Healthy Watersheds and Resilient Communities  
Waterloo, NY*



**Andy Sansone  
Monroe County  
Dept. of Environmental Services**

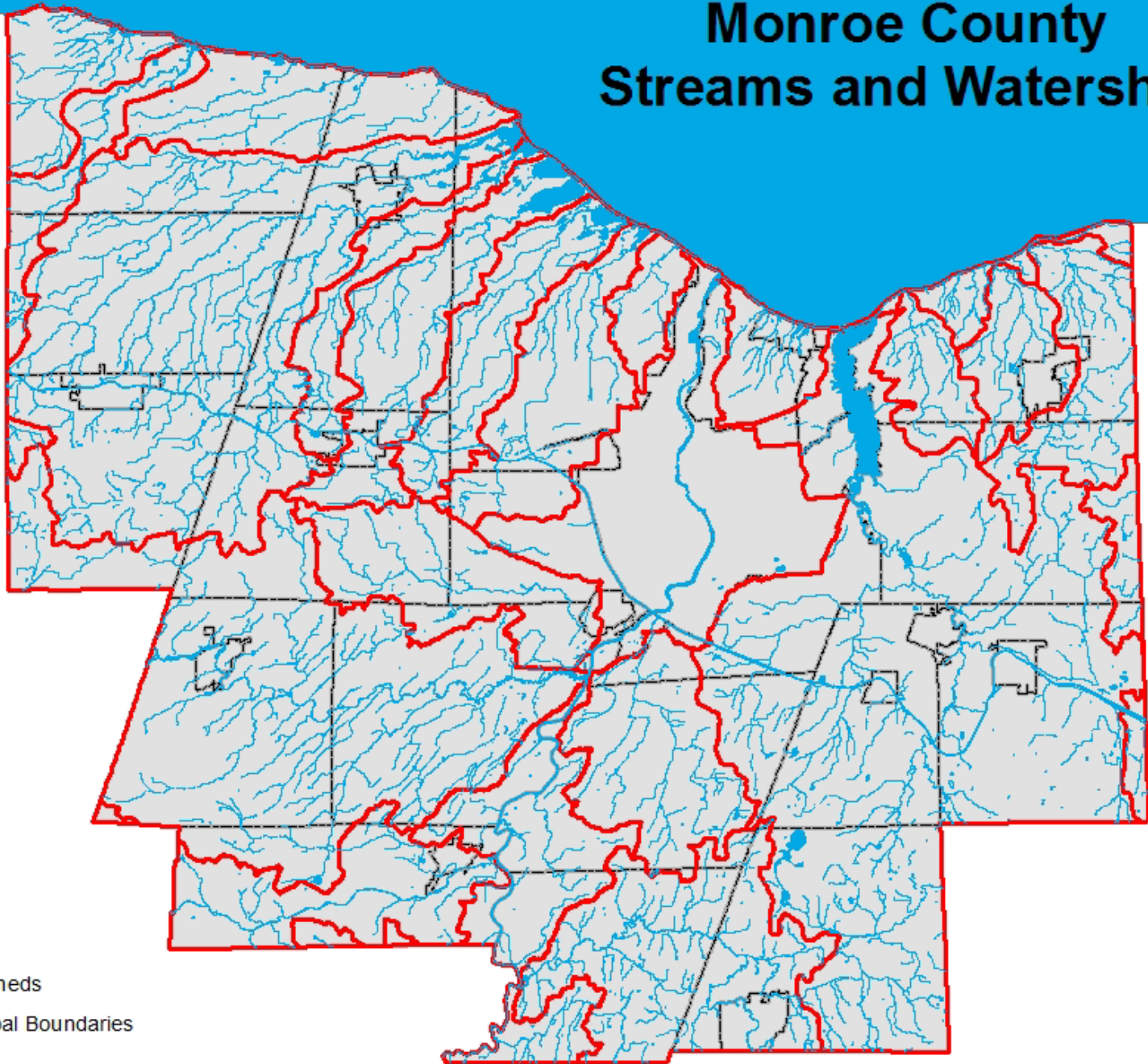
# Monroe County Stormwater Coalition



# Monroe County Streams and Watersheds

## Legend

- Stream
- Watersheds
- Municipal Boundaries



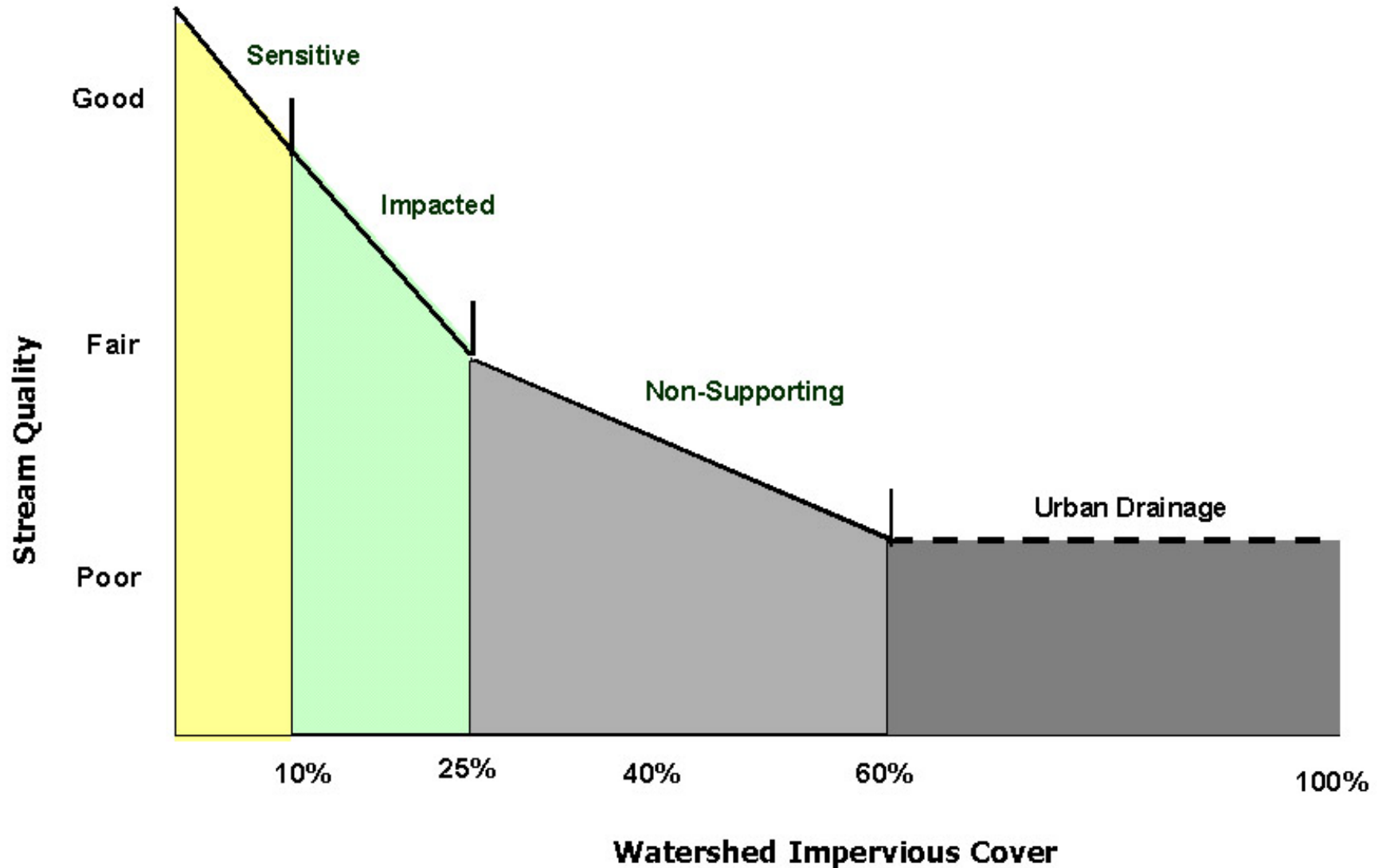
# Why do Watershed Assessments ?



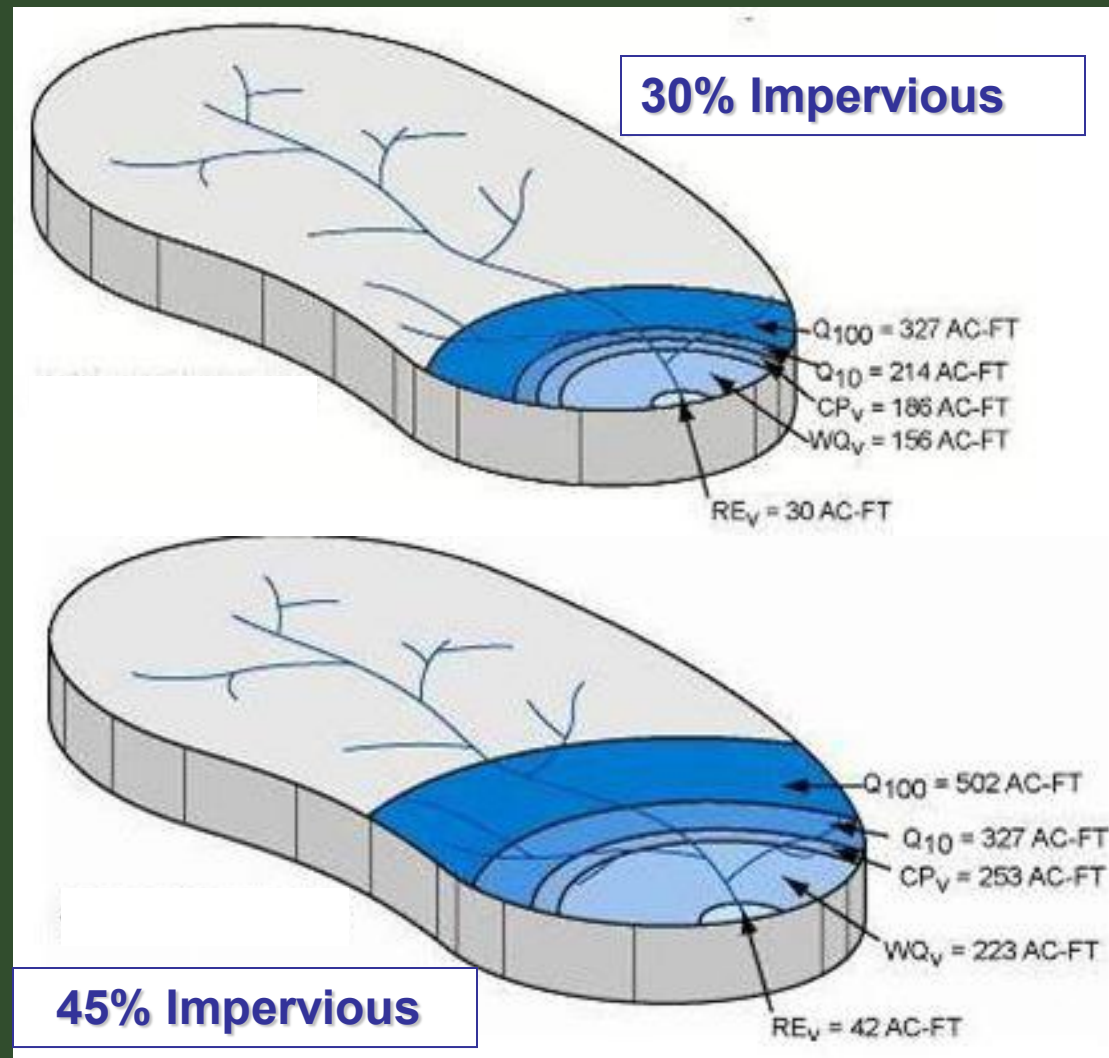
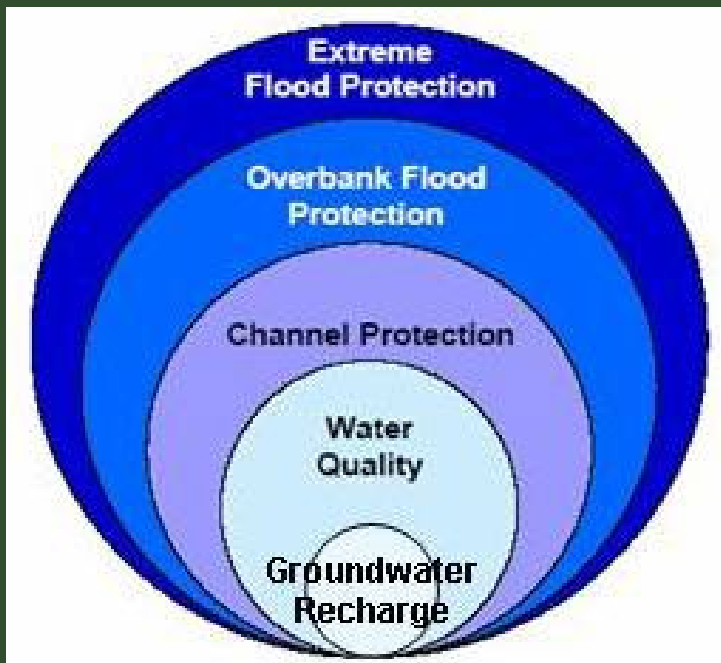
- **Impaired Waterbodies**
- **Stormwater Permit Requirements**
- **County Stormwater Master Plan**
- **Watershed Based Planning**



# Impervious Cover and Water Quality



# Restoration Objectives and Impervious Cover Conditions





# Examples of Impaired Streams





# Examples of Impaired Streams



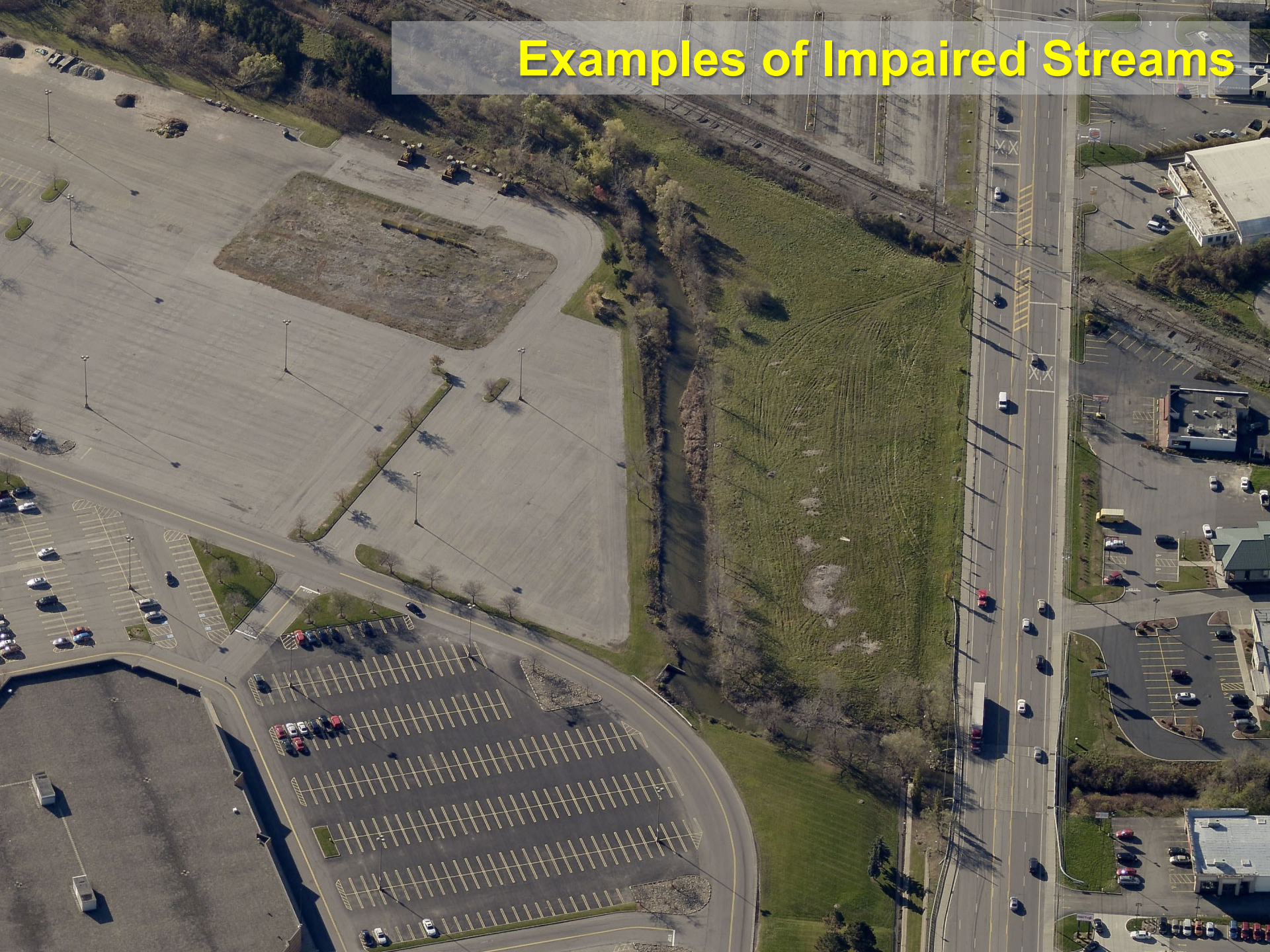


# Examples of Impaired Streams





# Examples of Impaired Streams





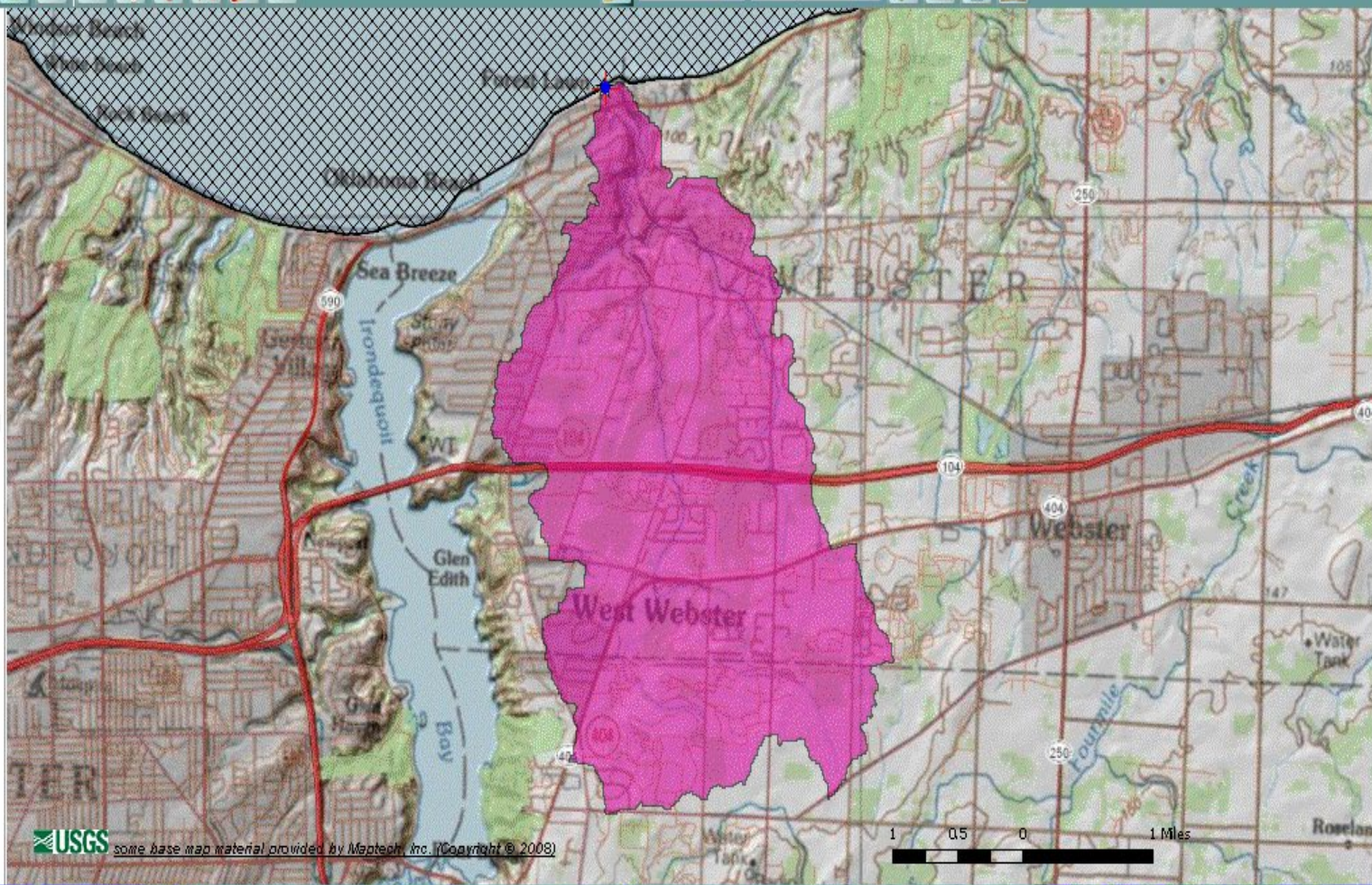


# New York Streamstats



Zoom To: 1:63,361

- Results >>
- Map Contents >>
- Navigation >>
- Overview >>



USGS some base map material provided by Maptech, Inc. (Copyright © 2008)

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U.S. Department of the Interior | U.S. Geological Survey  
URL: [http://streamstatsags.cr.usgs.gov/ny\\_ss/default.aspx](http://streamstatsags.cr.usgs.gov/ny_ss/default.aspx)  
Page Contact Information: StreamStats Help  
Page Last Modified: 01/28/2010 10:17:15

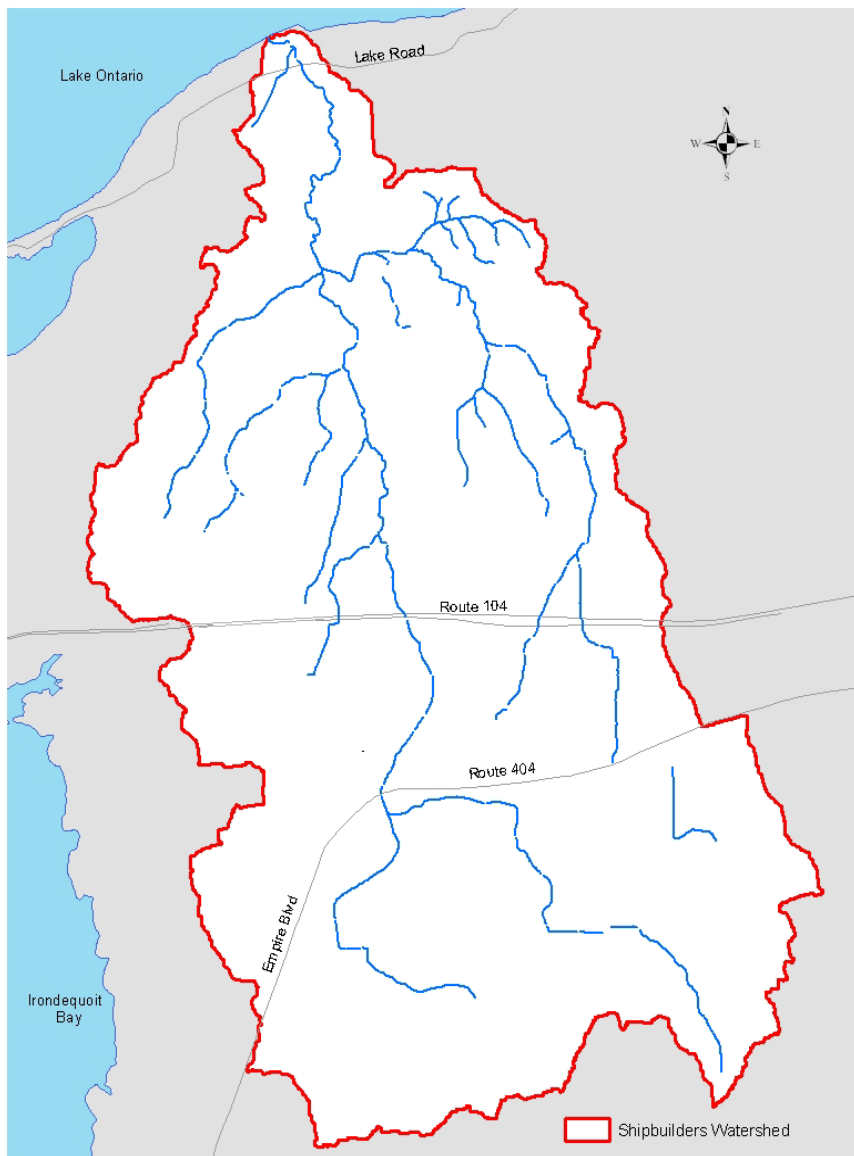
[Streamstats Status](#) [News](#)





# Watershed Characterization

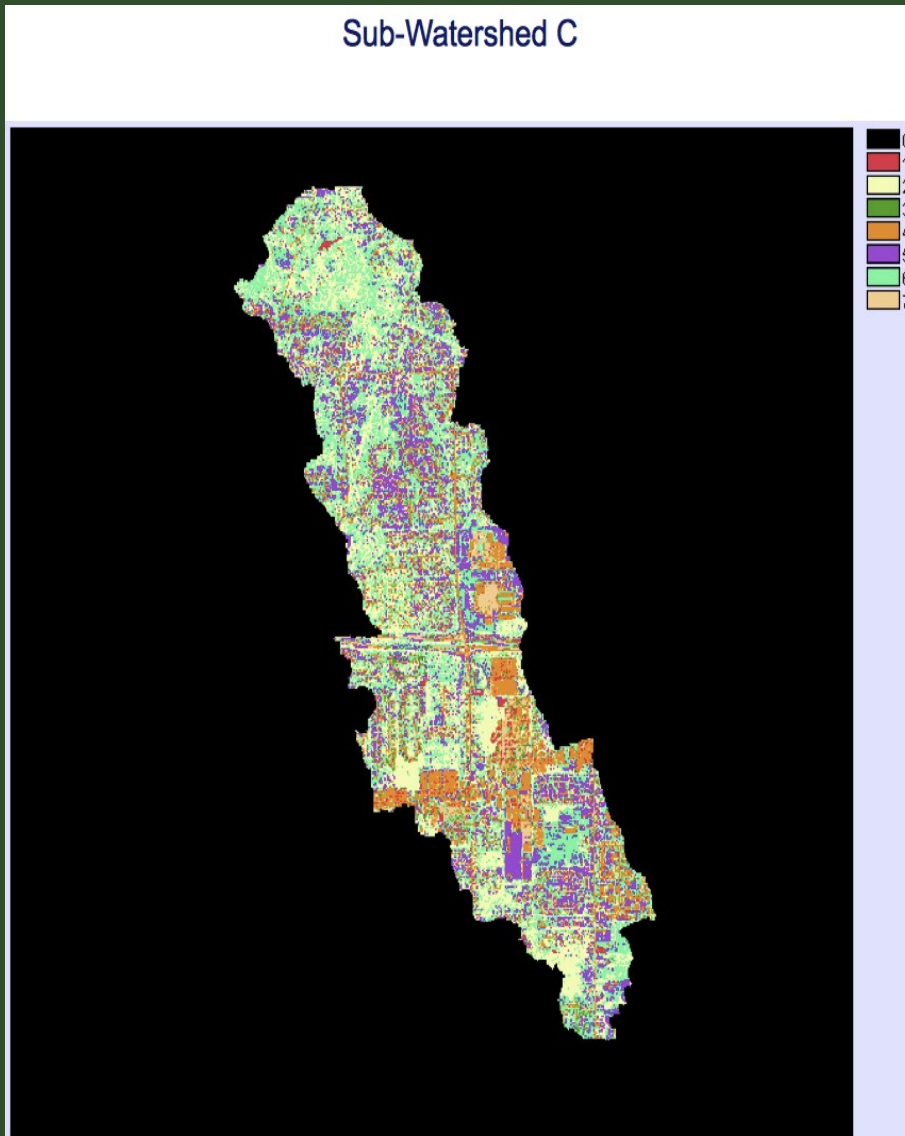
- **Flows to Lake Ontario AOC**
- **5,000 Acre Watershed**
- **303(d) Stream**
- **Pathogens and Phosphorus**
- **Primarily Residential Land Use**
- **2 x Municipalities**





# Desktop Assessment

- **Watershed Boundaries**
- **Impervious Cover**
- **Land Use**



	Sub Watershed C in Percent
Water	2.38%
Forest	30.67%
Wetland	1.22%
Impervious	17.49%
Grass	17.02%
Agriculture	24.71%
Bare Earth	6.52%
Total Percent	100.00%

# Methods

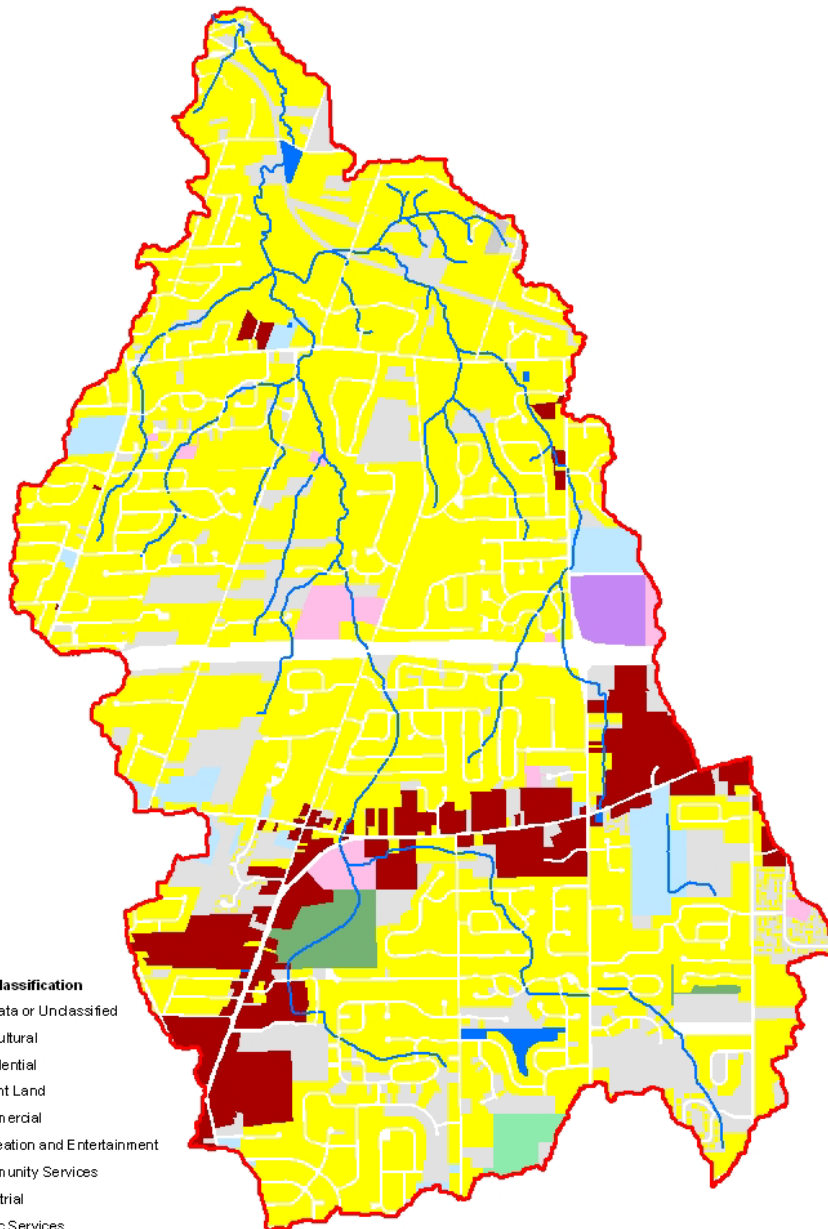


- **GIS Desktop Assessment**
- **Stream Corridor Walk**
- **Upland Land Survey**
- **Sampling**
- **Restoration Inventory**



#### Land Use Classification

- No Data or Unclassified
- Agricultural
- Residential
- Vacant Land
- Commercial
- Recreation and Entertainment
- Community Services
- Industrial
- Public Services
- Wild, Forested, Cons. Lands and Parks

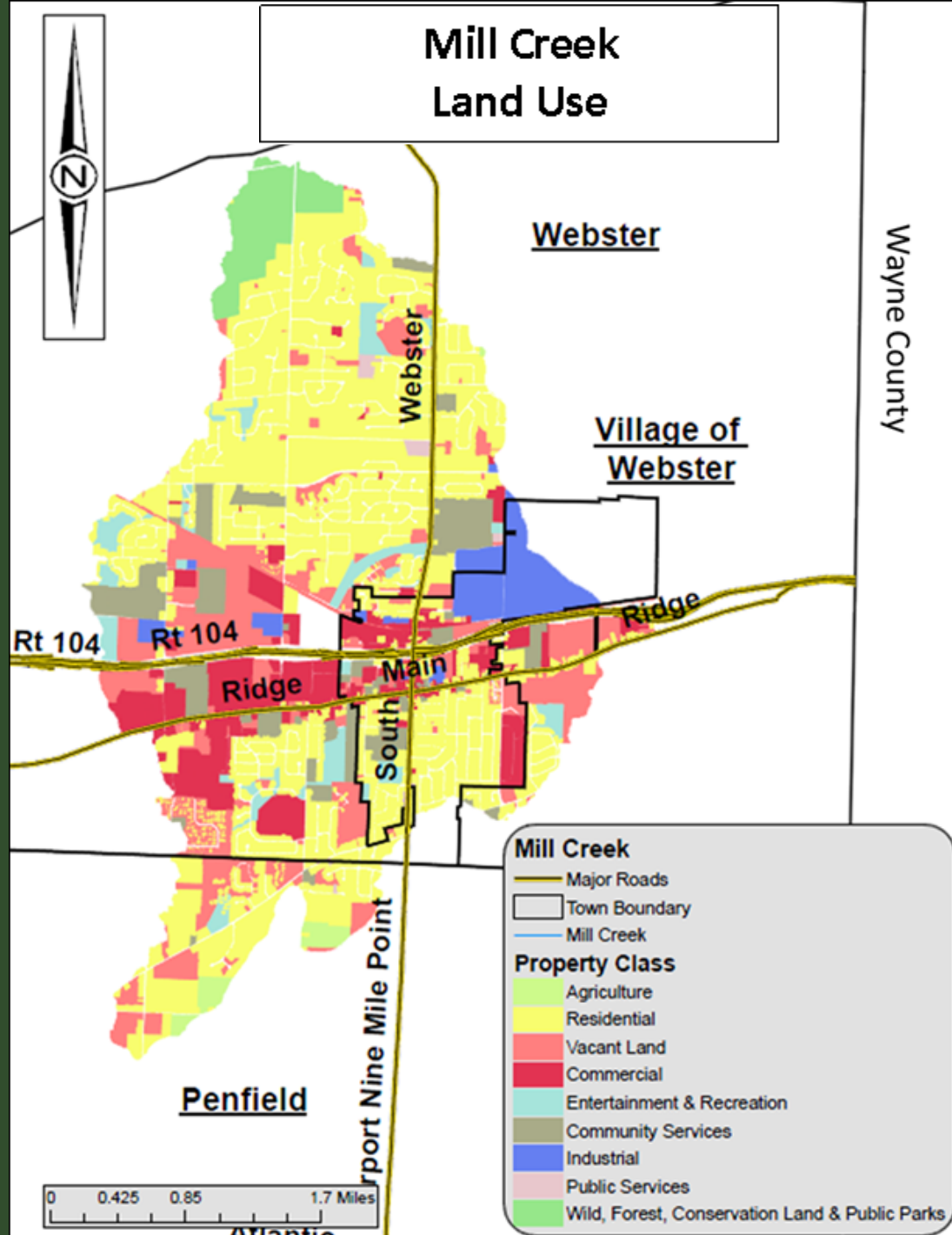


## Watershed Land Use

- Determined from Parcel records**
- Linked to Impervious Cover**



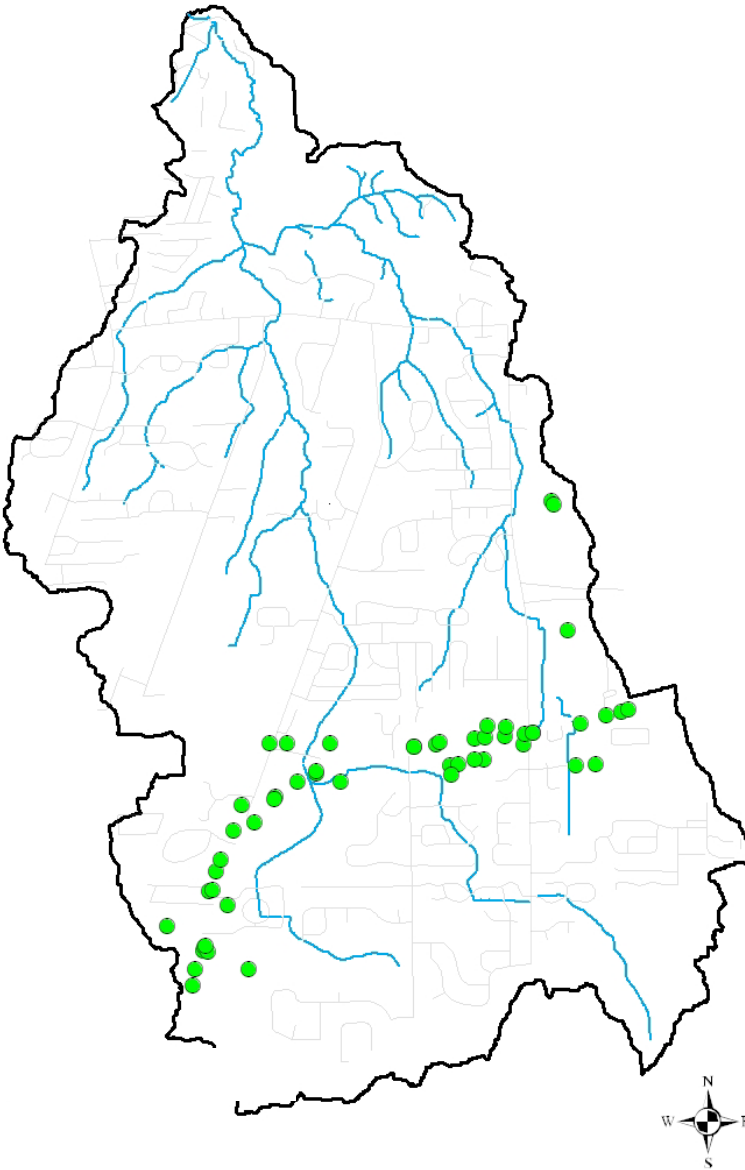
# Mill Creek Land Use





# Stormwater Hotspots

- **Generate higher levels of pollutants**



# Stream Corridor Assessment

- **Walk the stream**
- **Collect data with GPS**
- **Identify erosion, impacted buffers, trash, channel modification**





# Dry Basin Retrofit





# Disconnect Large Impervious Surfaces





# Stream Channel Restoration







# Potential Restoration Projects

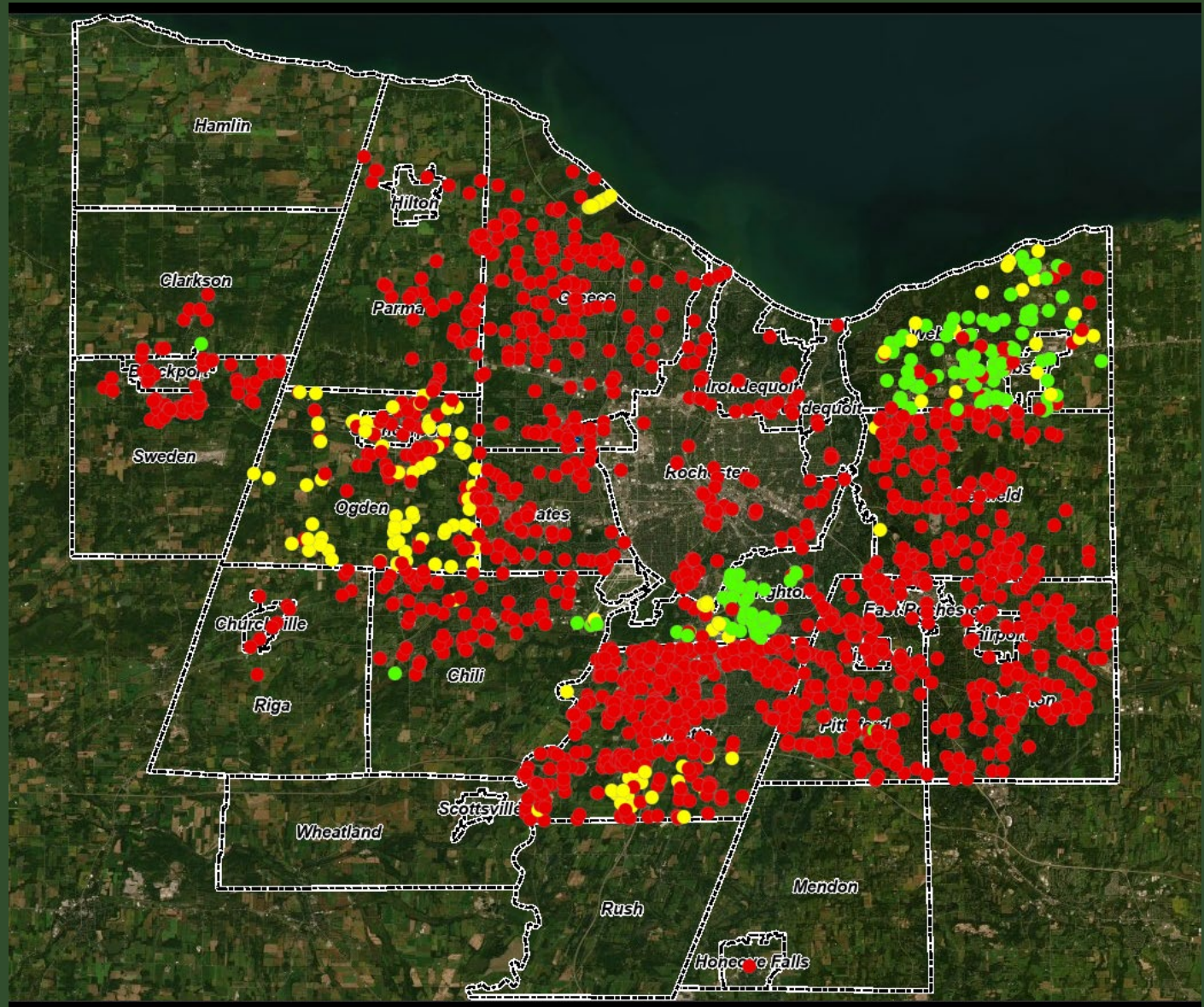
Project Name/ Project Location	Project Type	Area Treated (acres)	Stream Length Restored (ft)	Reason for Prioritization	Planning- Level Cost Estimate
Finn Park/ Gravel Rd. Webster	New Stormwater Pond	295	NA	<ul style="list-style-type: none"> <li>• Treats large area</li> <li>• Downstream erosion</li> <li>• Upstream developed area w/o treatment</li> <li>• Public property</li> </ul>	\$180,000
Lowes Home Imp. Ctr. (S. side entrance)/Five Mile Line Rd., Webster	Upgrade of Conventional Flood Control Pond	15	NA	<ul style="list-style-type: none"> <li>• Downstream erosion</li> <li>• Localized drainage issues</li> <li>• Available space</li> </ul>	\$30,000

# Finn Park Stormwater Management





# Stormwater Management Dashboard



# Hydrology Dashboard

Monroe County DES

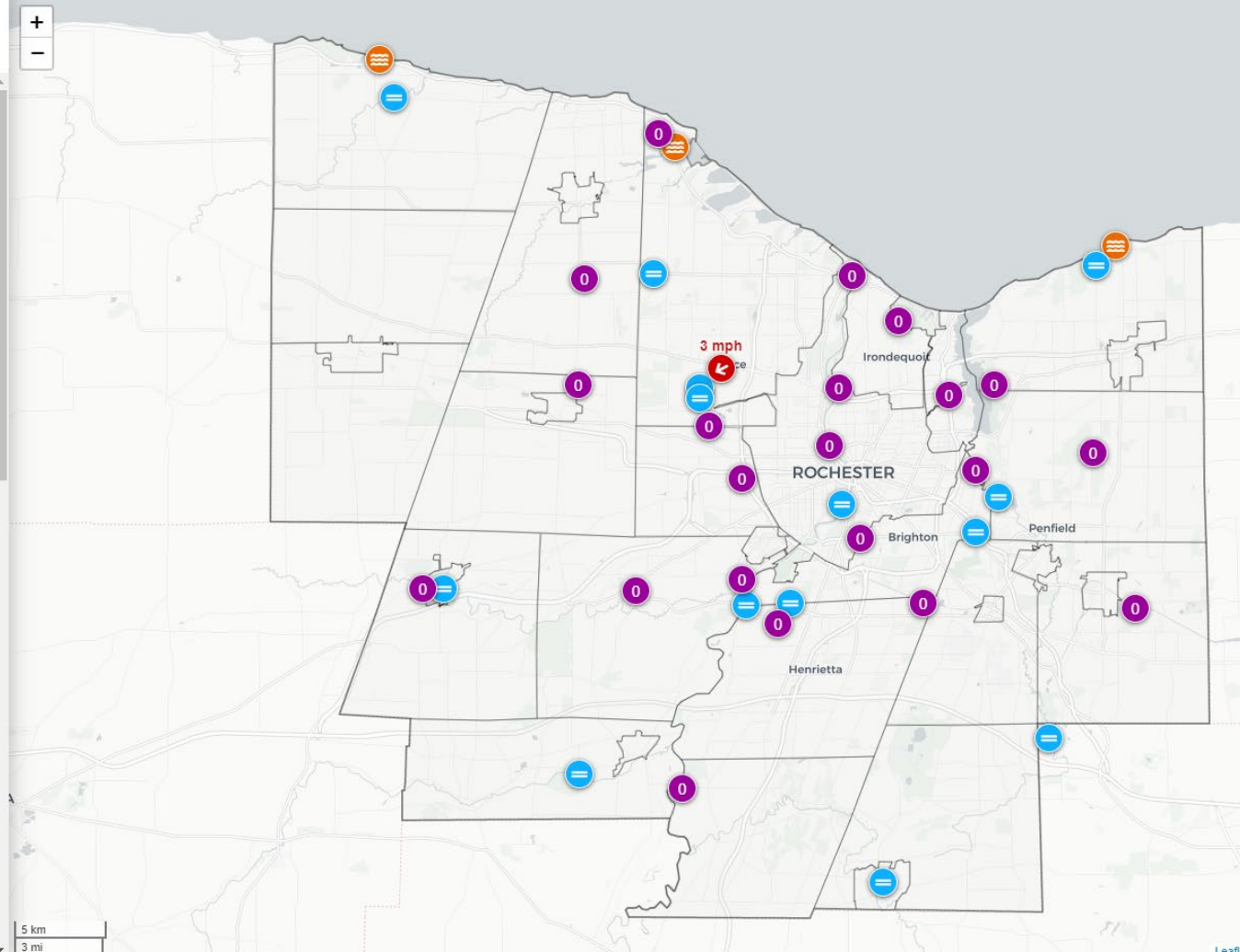
## RAIN GAUGE NETWORK

### WEATHER STATIONS

NAME	RAIN TOTAL	WIND SPEED	WIND DIRECTION
LONG POND	0 in	3 mph	WSW

### RAIN GAUGES

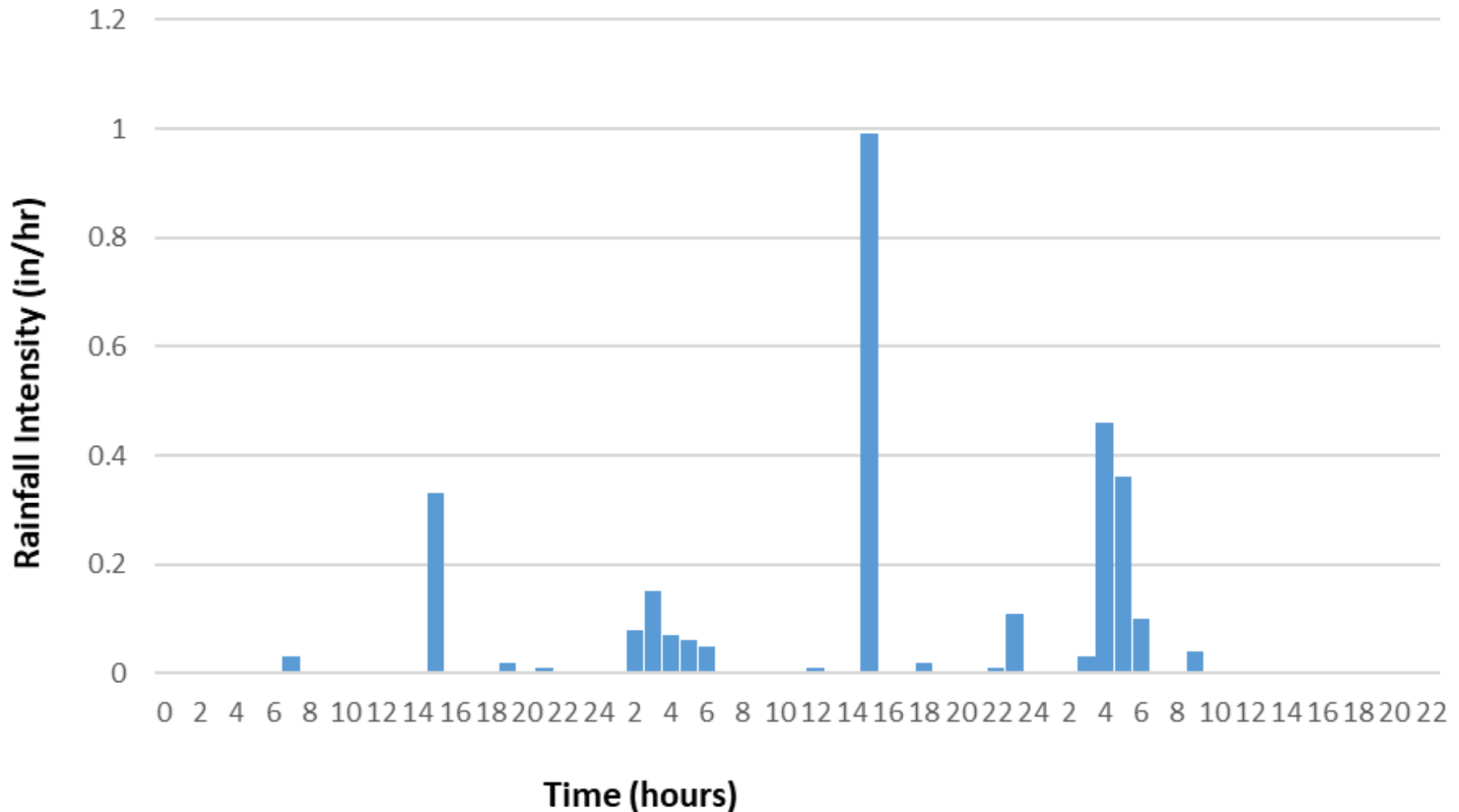
NAME	RAIN TOTAL	RAIN RATE
BROWNCROFT	0 in	0 in/hr
CS243	0 in	0 in/hr
CS41	0 in	0 in/hr
CENTRAL GATES	0 in	0 in/hr
CHARLOTTE	0 in	0 in/hr
CHURCHVILLE	0 in	0 in/hr
CULVER GOODMAN	0 in	0 in/hr
ELMWOOD	0 in	0 in/hr
FEV	0 in	0 in/hr
FIRST STREET	0 in	0 in/hr
GCO	0 in	0 in/hr
INDUSTRY	0 in	0 in/hr
JOHN ST	0 in	0 in/hr
KAREN LEE	0 in	0 in/hr
MCEWEN	0 in	0 in/hr
NWQ	0 in	0 in/hr
PARMA	0 in	0 in/hr
PENFIELD	0 in	0 in/hr
SOUTHWEST	0 in	0 in/hr
SPENCERPORT	0 in	0 in/hr
THOMAS CREEK	0 in	0 in/hr



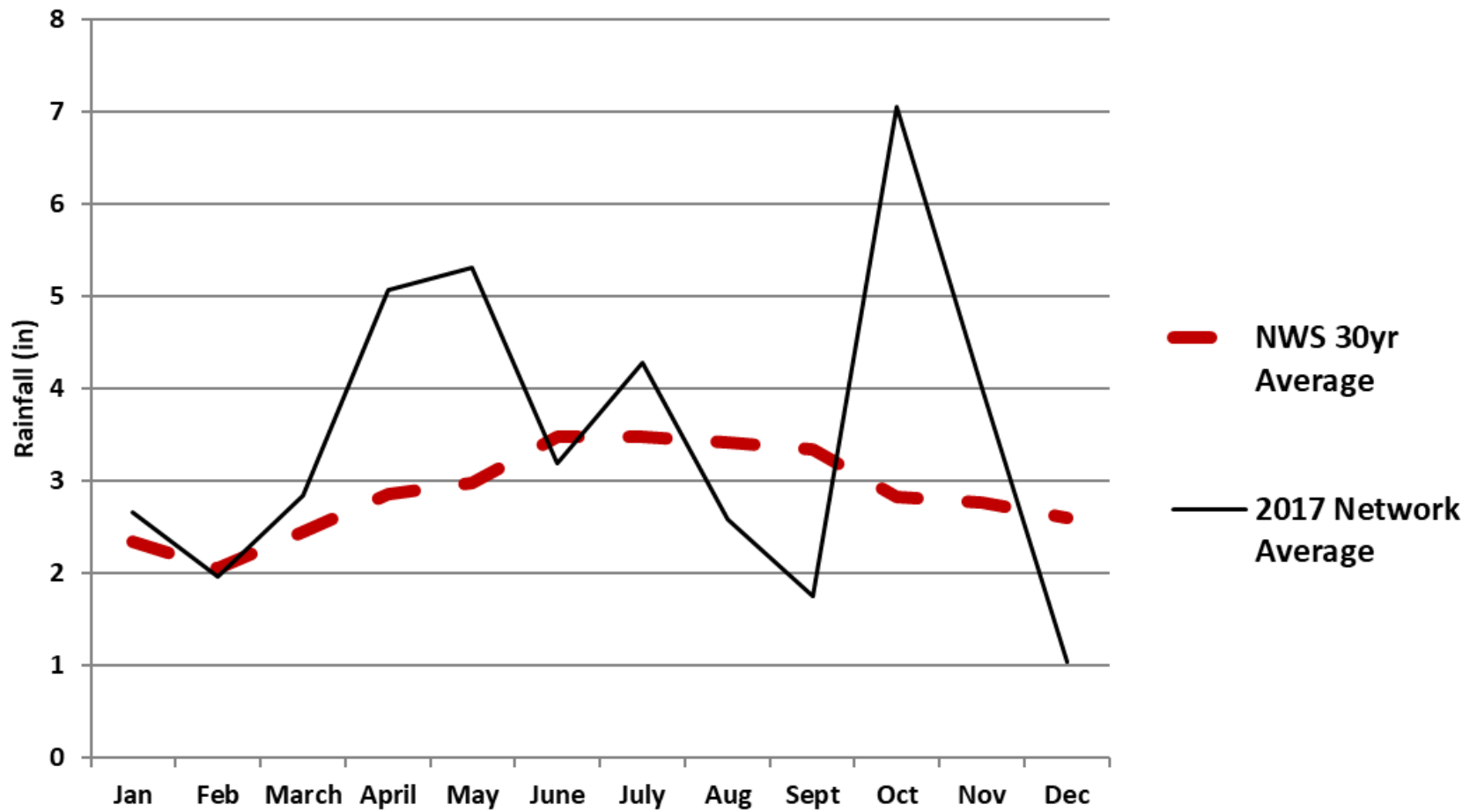


## Hourly Rainfall Central Gates August 21-23, 2022

2.94 Total Inches Rainfall



## 2017-20 Monthly Network Averages Vs. Long Term Average Rainfall





# Thank You !

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**Monroe County**  
**Environmental Services**  
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**585-753-7684**

