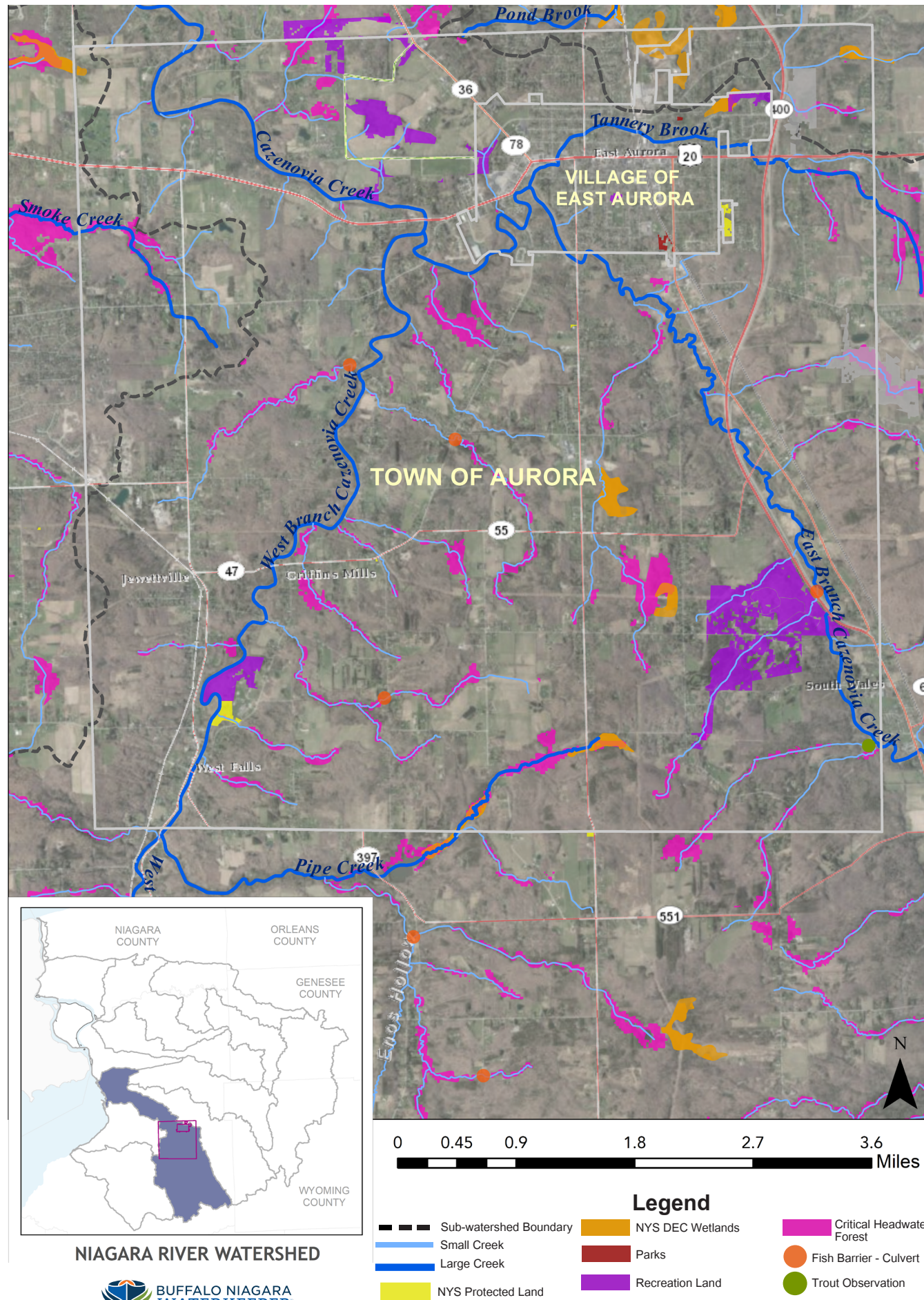


Town of Aurora (Erie County)



Protecting and Restoring Water Resources Together

Importance of Headwaters Communities – TOWN OF AURORA

Your community resides in a critical location within the Niagara River Watershed, the **Headwaters Region**.

Headwaters are the initial water source for a river or stream and serve as a filter for drinking water.

This region is the **source** of Western New York’s water resources. These waters contribute to the drinking water supply for 11 million people along Lake Erie and Lake Ontario and supports a water-based economy. Land conservation and management in the Headwaters Region protects water resources and advances regional priorities.

Buffalo Niagara Waterkeeper provides assistance to municipalities, at **no cost to the municipality** in order to accelerate the pace of regional watershed protection.

Municipal Assistance – Priority Actions

- Drinking Water Protection
- Land Conservation & Restoration
- Waterfront Landowner Outreach & Education
- Improve Fish Passage & Flow of Waterways

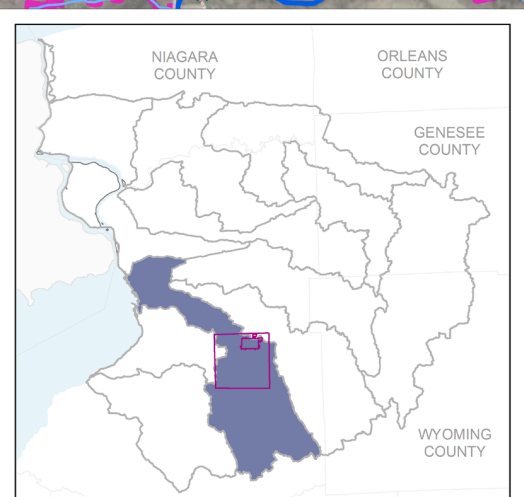
Buffalo Niagara Waterkeeper’s Mission

We protect and restore our water and surrounding ecosystems for the benefit of current and future generations.

We PROTECT clean water. We RESTORE the health of ecosystems. We CONNECT people to the water. We INSPIRE economic growth and community engagement.

CONTACT

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 Drinking Water Protection


Waterkeeper has collected an abundant data set for Cazenovia Creek Main, West and East branches to inform decision making and utilize in educational outreach. By addressing water quality issues impacting local waterways, Aurora can protect recreational and drinking water resources.

Resources & Expertise:

- Waterkeeper visually assessed 10 miles of Cazenovia Creek in Aurora
- Multi-year water quality data set of Hunters Creek
- Elevated nutrient levels throughout Aurora observed through Waterkeeper sampling
- Bacterial data collected indicates elevated levels of *E.coli* in Cazenovia Creek West and East Branch

Example Actions:

- Engage residents regarding septic maintenance to protect well water sources and ground water quality throughout Aurora
- Update Comprehensive Plan and update zoning regulations to protect aquifers, promote permeable surfaces for water infiltration, and require stream setbacks for future development
- Explore funding sources for infrastructure replacement/expansion for both drinking water and sewage systems
- Explore funding sources for living infrastructure and stormwater management
- Provide additional training for Town employees performing road maintenance on Davis Rd and other roadways adjacent to waterways to prevent excess road salt runoff

 Waterfront Landowner Outreach & Education

Elevated phosphorus and nitrate levels are present throughout Cazenovia Creek (all branches) in Aurora. Through targeted education and best management practices, nutrient runoff from farms and residential lands will be reduced.

Resources & Expertise:

- Utilize existing Waterkeeper and other partner outreach materials for Aurora residents education
 - Ex. Shoreline Properties Guide & Native and Invasive Species Booklets
- Funding available to farm owners to implement Best Management Practices to limit nutrient runoff into local creeks and streams

Example Project Success:

- Waterkeeper has demonstrated success in shoreline restoration and native plantings by working with various partners and landowners
- Waterkeeper coordinates with partners to acquire funding to implement volunteer tree plantings, community outreach, citizen science and education
- Waterkeeper launching green infrastructure program for residents along Tannery Brook

Example Actions:

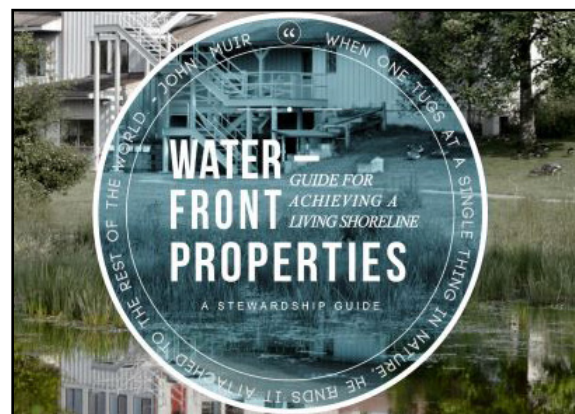
- Explore potential funding for agricultural landowners to increase Best Management Practice Education
- Conduct native plant homeowner forum in collaboration with Masterson's Garden Center, Inc.
- Engage agricultural landowners along East Branch Cazenovia Creek, south of Blakeley regarding stream-side buffers and nutrient runoff reduction



Waterkeeper performing stream assessments in Cazenovia Creek



Excess nutrients can result in algal growth - East Branch Cazenovia Creek



Waterkeeper Educational Resources



Land-use adjacent to waterways impacts water quality (Aurora)

 Improve Fish Passage & Flow of Waterways

Improperly sized or placed culverts can impede the passage of fish and other wildlife through a stream. Culverts and other barriers can prevent these species from reaching food sources, spawning locations, or cold water habitats.

Resources & Expertise:

- Waterkeeper and US Fish & Wildlife Service performed site assessments to verify and update historical records of trout presence in the watershed
 - Brook trout are present in Headwaters of Cazenovia Creek, upstream of Aurora
- Culvert replacement underway in Orangeville with multiple partners including Waterkeeper

Example Actions:

- Work to eliminate NYSDEC classified impassable barriers along the East and West Branches of Cazenovia Creek
- Explore solutions to erosion issues, beyond the use of rip-rap, with partner organizations including NYSDEC, USGS, and Erie County Soil and Water
- Prevent future fish barriers to maintain consistent cold water flow through Cazenovia Creek

 Land Conservation & Restoration

By protecting forested lands, wetlands, and open space, Aurora will be protecting water quality, soil health, and wildlife habitat.

Example Project Success:

Waterkeeper partnered with The Nature Conservancy and Erie County in 2015 to protect a 222-acre forest at the headwaters of Eighteenmile Creek (Concord, NY)

Example Actions:

- Update Comprehensive Plan and include conservation overlay districts, steep slope requirements, minimum setback requirements, and standards for vegetated buffers
- Maintain land conservation bordering Federal and State Wetlands and extend forest tracts that are not fragmented - a prime opportunity for land conservation through easements and/or acquisition in Emery Park and West Falls.
- Develop restoration plans for severely failing banks to limit erosion and nutrient influx
- Engage with neighboring communities to develop a cross-municipal land conservation strategy to conserve shared resources (Holland, Elma, Wales, Village of East Aurora)



Brook Trout - Photo Credit: Scott Cornett, NYSDEC



Example of a Fish Barrier Limiting Fish Passage - East Branch Cazenovia Creek



Headwater Forest Environment (Town of Aurora)



Hunters Creek County Park acts as an outdoor classroom

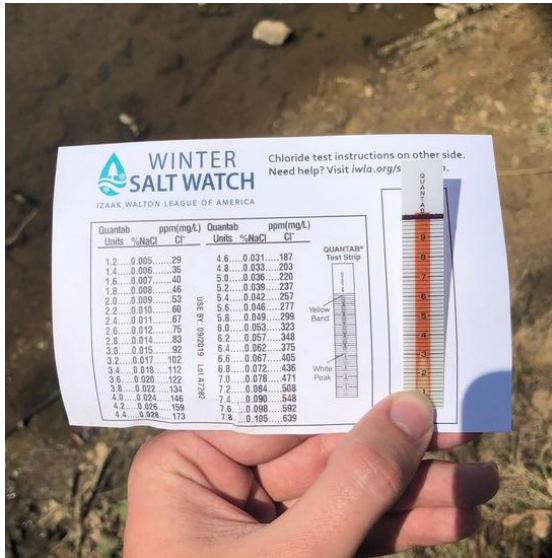
Stewardship Opportunity: Winter Salt Watch

What is Winter Salt Watch?

Road salt (sodium chloride) is commonplace during winter months. It keeps residents and visitors safe on roads and sidewalks, but it can also pose a threat to fish and wildlife as well as human health.

Road salts (Chloride) can impact streams and other waterways in many ways.

- Toxic conditions for fish and aquatic life
- Corroded pipes in drinking water systems
- Increased salt levels in drinking water



By conducting a simple (and quick) chloride test, Aurora can learn how road salt applied to 20A (Quaker Rd) and other roadways is impacting Cazenovia Creek and other streams.

To avoid excess road salt, municipal workers can be trained regarding best practices and protect water resources.

Izaak Walton League of America (a National conservation organization) can provide FREE test kits that are very easy to use. Extra test strips can be purchased on Amazon.

Example Use: Residents could pick up test kits at the Town Hall and return, or they could share their results using the FREE Water Reporter App. This would allow residents to take action and provide an open platform for result sharing and discussion.



Using Water Reporter, the user records the location of excess road salt near a waterway. This Program is used throughout the Midwest and East Coast.

Opportunity Highlight: Restoring Conductivity in a Headwater Stream

By replacing undersized, misaligned and improperly placed culverts, Aurora can restore the flow of water in headwater streams. Properly placed culverts allow for fish passage, promote healthy macro-invertebrate communities, and will decrease erosion and debris accumulation.

Common Problems with Stream Crossings



Perched Crossing

- Height barrier to fish and wildlife.



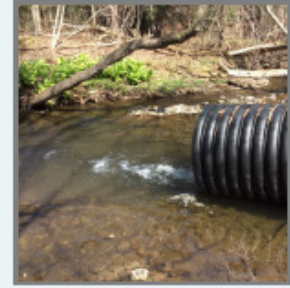
Shallow Crossing

- Low flow and lack of natural bed material.



Undersized Crossing

- Causes clogging and constricts flow.



Misaligned Crossing

- Erodes stream banks and misdirects flow.

Here are two examples of properly designed and installed stream crossings:

Embedded Open-Arch Culvert

- ◆ Natural substrate, large cobbles, and pools in the culvert provide habitat and places to rest
- ◆ Water velocity, slope, and depth match upstream and downstream conditions
- ◆ Safe passage for wildlife through the corridor



Doug Peterson/USFWS

Box Culvert

- ◆ Capable of handling high flows during storm events and provides safe resting areas
- ◆ Maintains flow during dry conditions
- ◆ No physical obstructions to passage

