BUFFALO NIAGARA WATERKEEPER

RIVERWATCH

2025 RIVERWATCH WATER QUALITY REPORT

An overview of Buffalo Niagara Waterkeeper's water quality sampling, restoration, and cleanup efforts

Image Credit: Bev Seyler
Image Description: A spotted sandpiper stands on lily pads

INTRODUCTION

This report is an educational tool providing information about water quality in the Western New York Region. Buffalo Niagara Waterkeeper (Waterkeeper) works to improve water quality through volunteer citizen science and cleanup programs, water quality monitoring, restoration projects throughout Western New York, and educational outreach. Included in this report is information about how the New York State Department of Environmental Conservation (DEC) creates water quality standards and stream designations, water quality issues in streams sampled, baseline water quality data, information regarding Harmful Algal Blooms (HABs), bacterial sampling results, PFAS sampling efforts, restoration project highlights, and much more!

Riverwatch is a volunteer citizen science program. Waterkeeper staff train concerned community members to gather important water quality data in the Niagara River/Lake Erie Watershed. These volunteers provide a network of 'eyes on the water' and help provide surveillance monitoring to bolster regional baseline water quality data. Waterkeeper recognizes the many barriers for full community participation in environmental volunteer programs and is continually working to reduce these barriers in our programming, including within Riverwatch.

TABLE OF CONTENTS

WATERKEEPER® ALLIANCE
MEMBER

Buffalo Niagara Waterkeeper is a licensed member of the Waterkeeper Alliance, a worldwide network of environmental organizations focused on clean water.

The Riverwatch Program would not be possible without the dedication of our amazing volunteers. Thank you for the countless hours of dedication to Buffalo Niagara Waterkeeper, the Riverwatch Program, and to our freshwater resources!

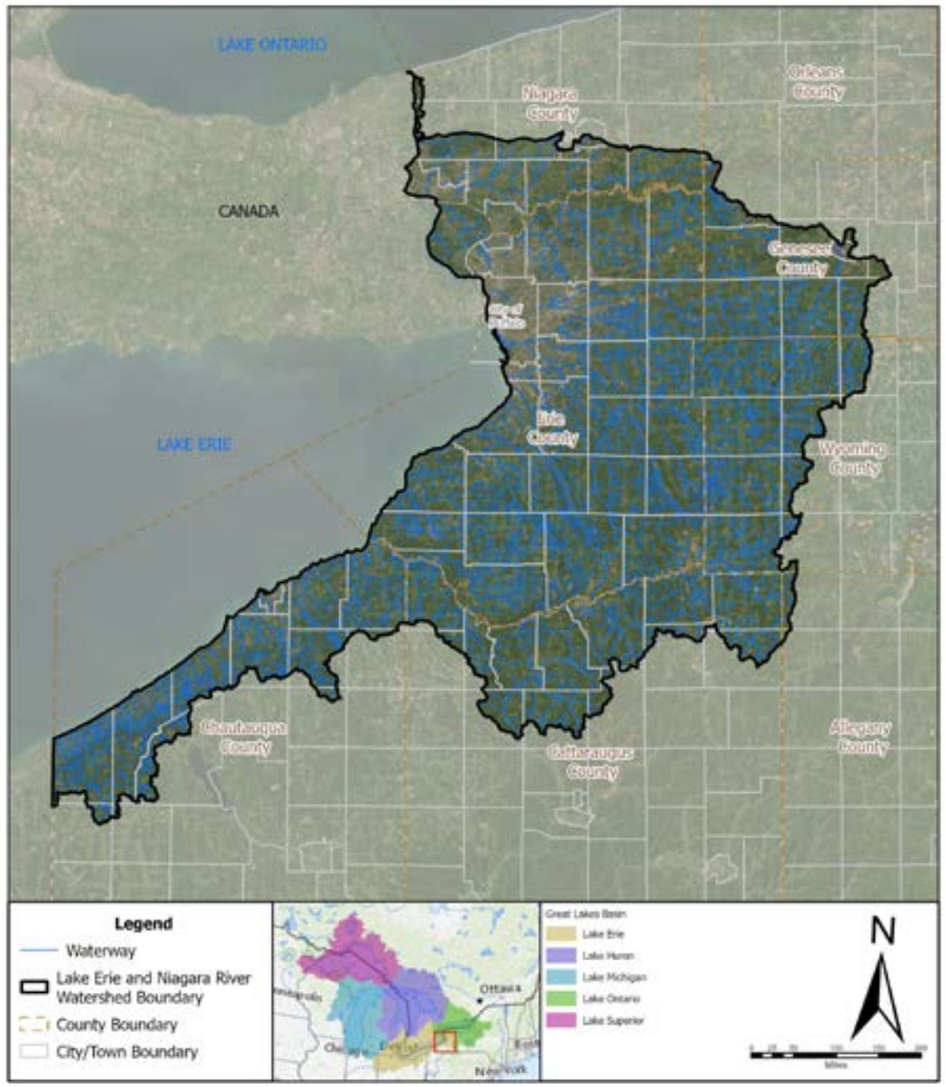
Thank you to our 2025 program supporters: East Hill Foundation, funding secured by former Congressman Brian Higgins in the 2023 federal budget and the NYS DEC Coastal Connections project.

NIAGARA RIVER/LAKE ERIE WATERSHED

The Niagara River/Lake Erie Watershed is located along the western most portion of New York State and encompasses lands that drain into Lake Erie and the Niagara River, a channel that connects the Great Lakes of Erie and Ontario. The Niagara River/Lake Erie Watershed is one of 17 major watersheds in New York State and also part of the larger Great Lakes Basin. The Great Lakes Basin holds 21% of the world's surface freshwater resources.

The Niagara River/Lake Erie Watershed, which can be divided up into 19 smaller sub-watersheds, encompasses 1,522,051 acres or 2,378 square miles, 5,545 miles of watercourses , and several small lakes and ponds within Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans and Wyoming counties.

To learn more about the Niagara River/Lake Erie Watershed and watershed planning visit:
www3.erie.gov/environment/watershed-management-plan



Map 1: Niagara River/Lake Erie Watershed

NEW YORK STATE WATERWAYS

Sources of information: DEC Water Quality Standards and Classifications Webpage:
https://dec.ny.gov/environmental-protection/water/water-quality/standards-classifications
Title 6 of the New York Codes, Rules and Regulations (6 NYCRR) Part 701 Classifications - Surface Waters and Groundwater

THE CLEAN WATER ACT AND WATER QUALITY STANDARDS (WQS)

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Water Quality Standards (WQS) are created by the DEC with oversight from the United States Environmental Protection Agency (EPA). These WQS are set by first determining best usages and establishing water quality criteria. Water quality criteria are numeric and narrative descriptions of the conditions in a waterway necessary to support Best Uses.

If all WQS are met, antidegradation policies and implementation methods are employed to keep the water quality at acceptable levels. If the waterway is not meeting WQS, a strategy to reduce pollutants and meet these standards is needed. Strategies are authorized by the CWA, utilizing available tools from federal, state, and local governments and nongovernmental organizations.

The DEC Division of Water staff oversee water quality and flood control programs throughout the state. Utilizing a number of programs, they are able to track the quality of water, identify sources of pollution, and work to control sources of pollution.

BEST USES AND STREAM CLASS

All waterways in the state are assigned a letter classification and standard designation by the DEC, which is based on the waterway's existing or expected Best Uses. Best Uses include: source of drinking water, swimming, boating, fishing, and shellfishing. There are subcategories under water-based recreation to refer to the proportion of time in which someone engaging in certain types of activities would come into direct contact with the water. Secondary contact refers to short-term contact, which may include jet skiing or canoeing. Primary contact refers to long-term or whole body contact and may include swimming, kayaking, or snorkeling.

A Class A fresh surface waters

Best uses: Source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival.

This classification may be given to those waters that, if subjected to approved treatment equal to coagulation, sedimentation, filtration and disinfection, with additional treatment if necessary to reduce naturally present impurities, meet or will meet NYS Department of Health (DOH) drinking water standards and are or will be considered safe and satisfactory for drinking water purposes.

B Class B fresh surface waters

Best uses: Primary and secondary contact recreation and fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival.

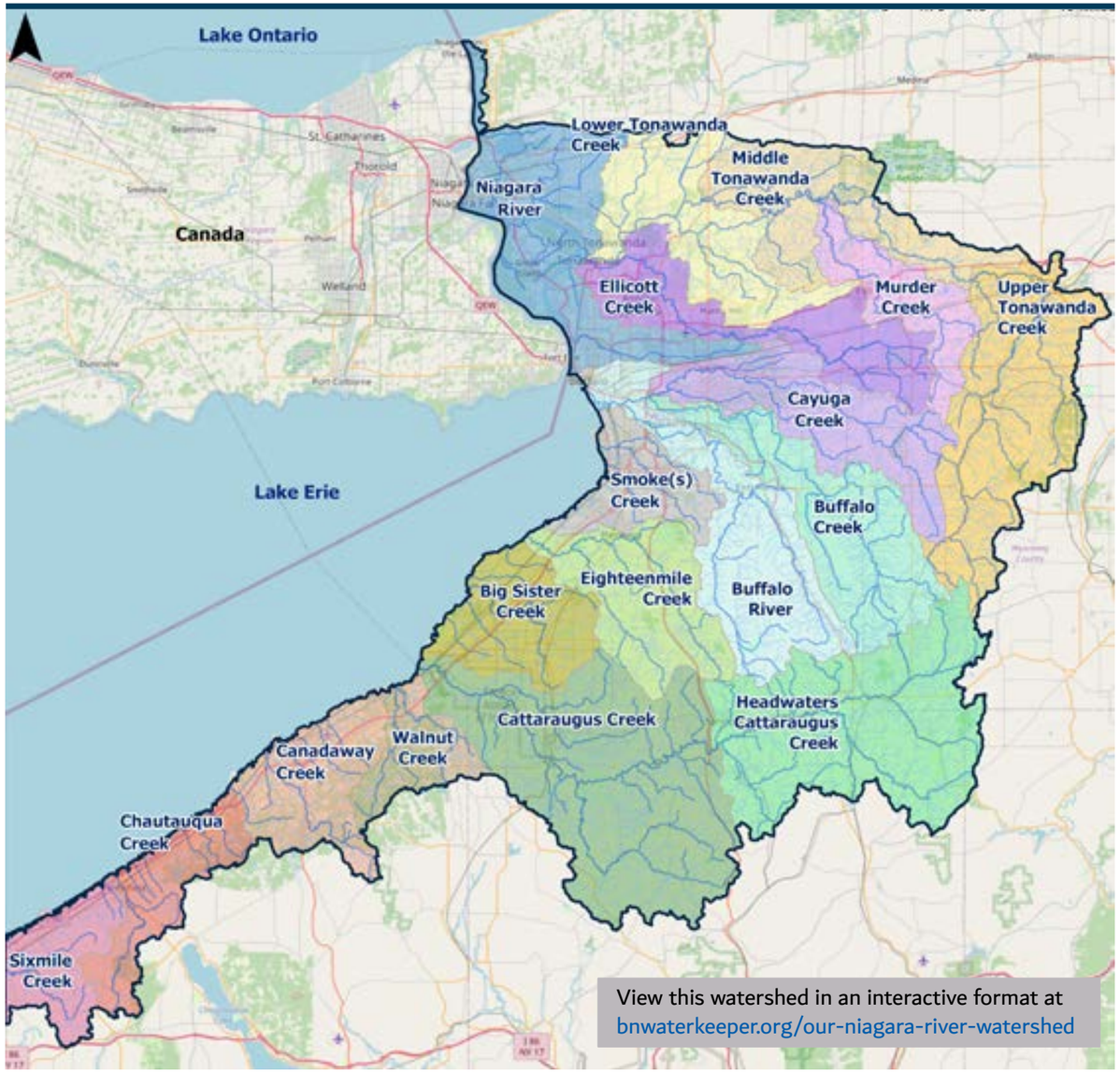
C Class C fresh surface waters

Best use: Fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use of these purposes.

D Class D fresh surface waters

Best use: Fishing. These waters, which reflect the lowest classification standard, shall be suitable for fish, shellfish, and wildlife survival. The water shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. Due to such natural conditions as intermittency of flow, water conditions not conducive to propagation of game fishery, or stream bed conditions, the waters will not support fish propagation.

Note: Waters with classifications A, B, and C may also have a standard designation of (T), indicating that it may support a trout population, or (TS), indicating that it may support trout spawning.



Map 2: Niagara River/Lake Erie Watershed with sub-watershed detail

ABOUT THE WATERBODIES SAMPLED

The following waterbodies are sampled by Riverwatch volunteers and Waterkeeper Staff. The stream length often includes waterbody tributaries. The water quality issues listed here reference the DEC's Waterbody Inventory/Priority Waterbodies List and Waterbody Segment Assessment Factsheets. Explore these waterways using the **DECinfo Locator** at dec.ny.gov/maps/interactive-maps/decinfo-locator

Niagara River Sub-watershed

Black Rock Canal Stream Class: C, Length: 2.2 miles. This canal is located parallel to Unity Island in the City of Buffalo.

Cayuga Creek (Niagara County) Stream Class: C, Length: 21.6 miles. This creek is located in Niagara County and flows into the Niagara River near Cayuga Island. **Water Quality Issues:** Fishing and secondary contact recreation is impaired due to a presence of dioxin.

Fish Creek Stream Class: C, Length: 9.9 miles. This creek originates on the Tuscarora Nation Reservation and flows into the Niagara River south of Lewiston. **Water Quality Issues:** Fishing is stressed likely due to dissolved oxygen levels.

Gill Creek and Hyde Park Lake Stream Class: Gill Creek - C, Length: 12.3 miles; Hyde Park Lake - B, 28.1 acres. Gill Creek is located in Niagara County, originating on the Tuscarora Nation Reservation, flowing through the City of Niagara Falls and into the Niagara River. **Water Quality Issues:** Fishing and secondary contact recreation is impaired in the creek. Harmful Algal Blooms have been confirmed by the DEC for the past several years in Hyde Park Lake, where primary contact recreation is also impaired due to phosphorus issues.

Grand Island Tributaries Stream Class: All are class B, Length: 53.7 miles. This includes all streams on Grand Island that flow into the Niagara River. **Water Quality Issues:** Fishing, secondary and primary contact recreation is stressed due to dissolved oxygen and pH levels.

Niagara River Stream Class: A (Special - Drinking Water), Length: 36.8 miles. The Niagara River connects Lake Erie and Lake Ontario. **Water Quality Issues:** This Niagara is a source of drinking water for much of the region. Fishing is impaired due to toxic contaminants including dioxin and PCBs. The river is also a Great Lakes Area of Concern.

Scajaquada Creek Stream Class: Lower - B (mouth to Main St, Buffalo), Length: 0.3 miles; Middle - C (Main St to Cheektowaga), Length: 8.3 miles; Upper - B (above Cheektowaga), Length: 15.1 miles. This creek begins in Lancaster and flows into the Black Rock Canal in the City of Buffalo. **Water Quality Issues:** Fishing, primary and secondary contact recreation are impaired for a majority of the creek due to dissolved oxygen, fecal coliform and phosphorus levels.

Two Mile Creek Stream Class: B, Length: 7.1 miles. This creek flows through Tonawanda and into the Niagara River. **Water Quality Issues:** Fishing, primary and secondary contact recreation are impaired due to dissolved oxygen, fecal coliform, and oil and floating substances.

Ellicott Creek Sub-watershed

Ellicott Creek Stream Class: Lower - B (mouth to Alden), Length: 112 miles; Upper - C (above Alden), Length: 117.5 miles. This creek begins in Genesee County and flows northwest and flows into Tonawanda Creek in Tonawanda. **Water Quality Issues:** Fishing, primary and secondary contact recreation are impaired in the lower section due to phosphorus, silt, sediment, and total dissolved solids. Fishing is stressed in the upper section due to dissolved oxygen and pH levels.

Lower Tonawanda Creek Sub-watershed

Ransom Creek Stream Class: C, Length: 93.7 miles (includes Got Creek). This creek originates in Clarence and flows into Tonawanda Creek in Amherst. **Water Quality Issues:** Fishing and secondary contact recreation are impaired due to dissolved oxygen levels and fecal coliform respectively.

Tonawanda Creek, Lower (portion 1) Stream Class: C (mouth to Pendleton), Length: 11.9 miles. **Water Quality Issues:** Fish consumption is impaired, while aquatic life and recreation are stressed by known toxic contaminated sediment, urban stormwater runoff, and suspected nutrient and silt pollution from sanitary discharges and streambank erosion.

Middle Tonawanda Creek Sub-watershed

Tonawanda Creek, Middle (portion 2) Stream Class: B (Pendleton to E. Pembroke), Length 49.3 miles. **Water Quality Issues:** Fishing and secondary contact recreation is stressed due to aluminum, dissolved oxygen, pH and total dissolved solids. Primary contact recreation is impaired due to fecal coliform.

Tonawanda Creek, Middle (portion 3) Stream Class: C (E. Pembroke to Batavia), Length: 11.7 miles. **Water Quality Issues:** Fishing and secondary contact recreation are impaired due to phosphorus.

Upper Tonawanda Creek Sub-watershed

Tonawanda Creek, Upper (portion 4) Stream Class: A (above Batavia); Length: 255.1 miles. **Water Quality Issues:** Fishing, secondary and primary contact recreation is stressed due to dissolved oxygen and pH. The creek is a source of drinking water, but this use is impaired due to water level flow.

Murder Creek Sub-watershed

Murder Creek Stream Class: Lower - C (mouth to Corfu), Length: 75.5 miles; Upper - C (above Corfu), Length: 106.2 miles. This creek flows north through Genesee County flowing into Tonawanda Creek. **Water Quality Issues:** Fishing is impaired in the lower section due to dissolved oxygen and total phosphorus. Secondary contact recreation is impaired due to fecal coliform. Fishing is stressed in the upper section, but the pollutant or cause is unconfirmed.

Cayuga Creek Sub-watershed

Cayuga Creek Stream Class: Lower - C (mouth to Lancaster), Length: 13.5 miles; Middle - B (Lancaster to Folsomdale), Length: 116.6 miles. This creek originates in western Wyoming County flowing into Erie County and empties into the Buffalo River. **Water Quality Issues:** Fishing is stressed due to pH in both sections while secondary and primary contact recreation is stressed in the middle section due to pH.

ABOUT THE WATERBODIES SAMPLED

Buffalo River Sub-watershed

Buffalo River Stream Class: C, Length: 8.6 miles (mouth to Cayuga Creek). The Buffalo River flows through the City of Buffalo into Lake Erie. **Water Quality Issues:** The main stem is designated as a Great Lakes Area of Concern (AOC). Fishing is impaired due to PCBs.

Cazenovia Creek Stream Class: B, Length: 51.7 miles. This creek has 2 branches which flow from the southeastern portion of Erie County. They join near East Aurora and the creek flows into the City of Buffalo and flows into the Buffalo River. **Water Quality Issues:** Fishing, secondary and primary contact recreation is stressed due to dissolved oxygen.

Lake Erie, Northern Outer Harbor Stream Class: B, Shoreline Length: 7.3 miles. **Water Quality Issues:** Fish consumption is impaired due to PCB contamination from historic industrial discharges and inactive hazardous waste sites.

Smoke Creek/Frontal Lake Erie Sub-watershed

Rush Creek Stream Class: C, Length: 17.2 miles. This creek flows in Hamburg and into Lake Erie. **Water Quality Issues:** Fishing and secondary contact recreation is impaired due to fecal coliform and phosphorus.

Smoke Creek Stream Class: Lower – C (mouth to Webster Corners), Length: 7.2 miles; South Branch Lower – C (mouth to Orchard Park), Length: 27.2 miles. This creek originates near Orchard Park, flowing through Lackawanna and into Lake Erie. **Water Quality Issues:** Urban stormwater runoff pollution elevates nutrient and sediment loads resulting in impaired/stressed aquatic life. Hydrologic modification in the main branch also impacts the creek. Fishing and secondary contact recreation is impaired in the South Branch due to phosphorus, silt and sediment.

Eighteenmile Creek Sub-watershed

Eighteenmile Creek Stream Class: Lower - B(T) (mouth to Hamburg), Length: 30.8 miles; Middle - A (Hamburg to Patchin), Length: 49.5 miles. This creek is the second largest tributary to Lake Erie in New York State and flows through Southern Erie County. **Water Quality Issues:** In the lower stretch fish consumption, recreation, and fishery habitat are stressed by streambank erosion, stormwater runoff, agriculture, hydrologic modification, and toxic contaminated sediment. There are no known impacts listed for the middle stretch.

Big Sister Creek/Frontal Lake Erie Sub-watershed

Little Sister Creek Stream Class: Lower - B (mouth to Route 5), Length: 4 miles; Upper (above Route 5) -unassessed; Length: approximately 12 miles. This creek flows through Evans and into Lake Erie south of Cradle Beach. **Water Quality Issues:** Fishing and secondary contact recreation is impaired in the lower stretch due to fecal coliform and phosphorus. The upper stretch of the creek is unassessed.

Big Sister Creek Stream Class: Lower - C (mouth to Pontiac), Length: 19.5 miles; Upper - C (above Pontiac), Length: 51.4 miles. This creek flows through Evans and into Lake Erie at Bennett Beach. **Water Quality Issues:** In the lower stretch fishing is stressed, likely due to the waterway's pH levels. Fishing in the upper stretch is impaired, likely due to waterway pH levels and copper.

Muddy Creek Stream Class: Lower - B (mouth to Erie Rd), Length: 2.4 miles; Upper - C (above Erie Rd), Length: 22.3 miles. This creek flows through Farnham, NY and enters Lake Erie at Lake Erie Beach Park. **Water Quality Issues:** Fishing in the upper section is stressed, likely due to dissolved oxygen levels. In the lower section, primary and secondary contact recreation is impaired due to fecal coliform.

Cattaraugus Creek Sub-watershed

Cattaraugus Creek Stream Class: Lower - B (T) (mouth to Iroqouis), Length: 10 miles; This 68 mile long creek begins in Arcade, NY and flows into Lake Erie at Sunset Bay. **Water Quality Issues:** In the lower stretch fishing, primary and secondary contact recreation is stressed, likely due to the waterway's total dissolved solid levels. Much of the upper sections of the creek remain unassessed.

Walnut Creek Sub-watershed

Silver Creek Stream Class: Lower - C(T) (mouth to Smith Mills), Length: 21.7 miles; Upper - A (above Smith Mills), Length: 32.7 miles. This creek begins in Chautauqua County and flows into Lake Erie at the Village of Silver Creek. **Water Quality Issues:** Fishing is impaired in the upper and lower sections, likely due to pH. Source water supply in the upper section is also impaired, but the pollutant or cause is unconfirmed.

Walnut Creek Stream Class: Lower - C (mouth to Forestville), Length: 25.1 miles; Upper - C(T) (above Forestville), Length: 36.9 miles. This creek begins in Chautauqua County and flows into Silver Creek in the Village of Silver Creek. **Water Quality Issues:** Fishing is impaired in both sections of the creek, but the pollutant is unconfirmed.

Canadaway Creek Sub-watershed

Crooked Brook Stream Class: C, Length: 8.1 miles. Located in Dunkirk, this small waterway flows into Lake Erie. **Water Quality Issues:** Fishing is stressed, likely due to dissolved oxygen, pH and TDS levels. Secondary contact recreation is impaired, but the pollutant or cause is unconfirmed.

Muddy Creek as it flows into Lake Erie

BASELINE WATER CHEMISTRY SAMPLING PARAMETERS & STANDARDS

WHAT PARAMETERS DO WE TEST FOR?

Riverwatch Baseline Water Chemistry Volunteers collect data on the following parameters using a Eureka Manta+ 20 meter and a HACH 2100Q Portable Turbidimeter.

TEMPERATURE

The temperature of water governs what aquatic life will inhabit a waterway. Additionally, temperature controls the dissolved oxygen content of water (as the temperature of water increases, the concentration of dissolved oxygen content decreases), and influences the rate of chemical and biological reactions. Water temperature can be impacted by sunlight duration and intensity, and discharges entering the waterbody.

DISSOLVED OXYGEN (DO)

DO enters water from the atmosphere, from aeration as it tumbles over rocks and falls, and from photosynthesis. DO is essential for the survival of nearly all aquatic life and levels can decrease with the introduction of various pollutants including sewage discharges, stormwater runoff, and failing septic systems.

CONDUCTIVITY

Conductivity is a measure of water's capability to pass an electrical current and indicates the presence of inorganic dissolved solids such as salts, chlorides, nitrate, sulfate, and phosphate ions. Conductivity is affected by the geology of the area through which the water flows. Elevated levels may indicate the presence of sewage or stormwater discharges and runoff. Streams outside of the standard range may not support healthy fisheries and other aquatic life.

TOTAL DISSOLVED SOLIDS (TDS)

TDS is a measure of inorganic and organic substances dissolved in water which include salts and minerals. Salts from roadways may run off into waterways resulting in an elevated TDS reading.

pH

pH is a measurement of the potential activity of hydrogen ions (H+) in a sample. The pH reading of a water sample indicates its acidity on a scale from 0 to 14 with 7 being a neutral value. Solutions with a pH less than 7 are considered acidic and solutions above 7 are considered basic. The pH of water determines the solubility and biological availability of chemical constituents such as nutrients. The majority of aquatic animals prefer a range of 6.5 to 8.5. A pH outside this range stresses the systems of most organisms and can reduce reproduction, thereby reducing the diversity in the waterway. Pollution sources can alter the waterway's pH.

TURBIDITY

Turbidity is a measure of the clarity of a liquid. Suspended solids including soil particles, algae, plankton, and microbes impact turbidity. Erosion of sediment and stormwater runoff will increase the turbidity of waterways. High turbidity increases water temperatures, decreases DO, provides refuge for harmful microbes, and can clog the gills of fish and crustaceans.

WHAT ARE THE STANDARDS FOR THESE PARAMETERS?

This report summarizes water chemistry data collected and compares it to set standards. These standards are established by the DEC with oversight from the EPA.

Standards are as follows:

Parameter	Standard
Dissolved Oxygen	No less than 6.0 mg/L for Niagara River No less than 4.0 mg/L for all other streams
Conductivity[1]	Between 150 and 500 µS/cm
pH	Between 6.5 and 8.5
Turbidity	No increase that will cause a substantial visible contrast to natural conditions

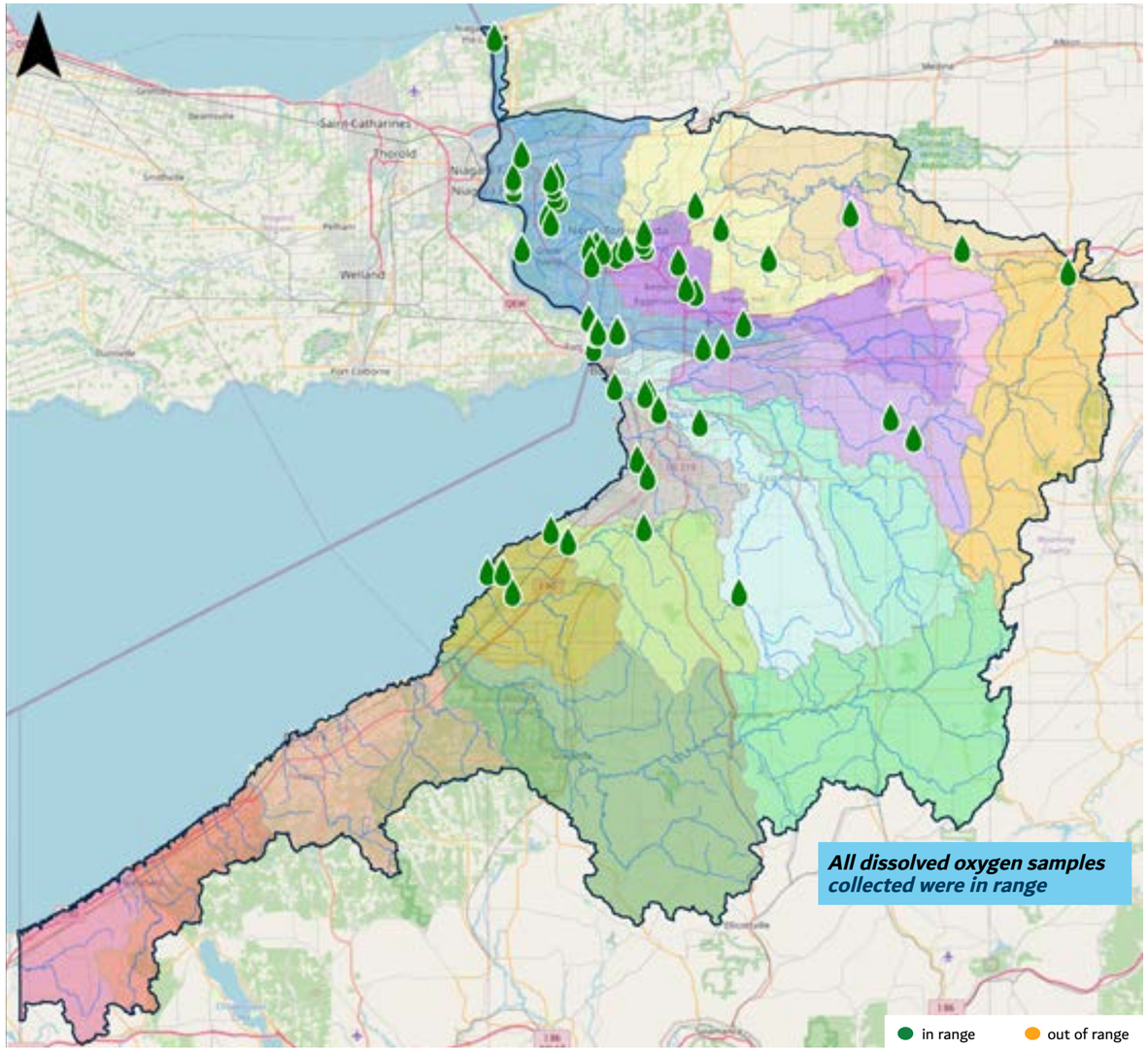
1 There is no standard set for conductivity by the DEC or EPA. This range is a guideline for freshwater systems.

Scan QR code to view data online

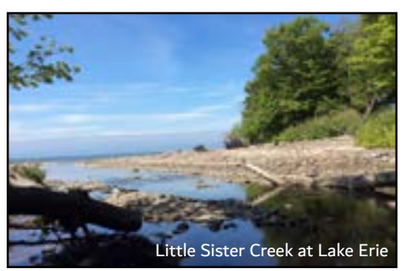
VIEW THIS DATA ONLINE!

To view data collected by volunteers and staff in an interactive format, visit bnwaterkeeper.org/our-impact/water-quality

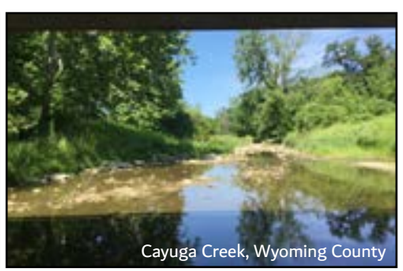
DISSOLVED OXYGEN RESULTS COMPARED TO STANDARDS



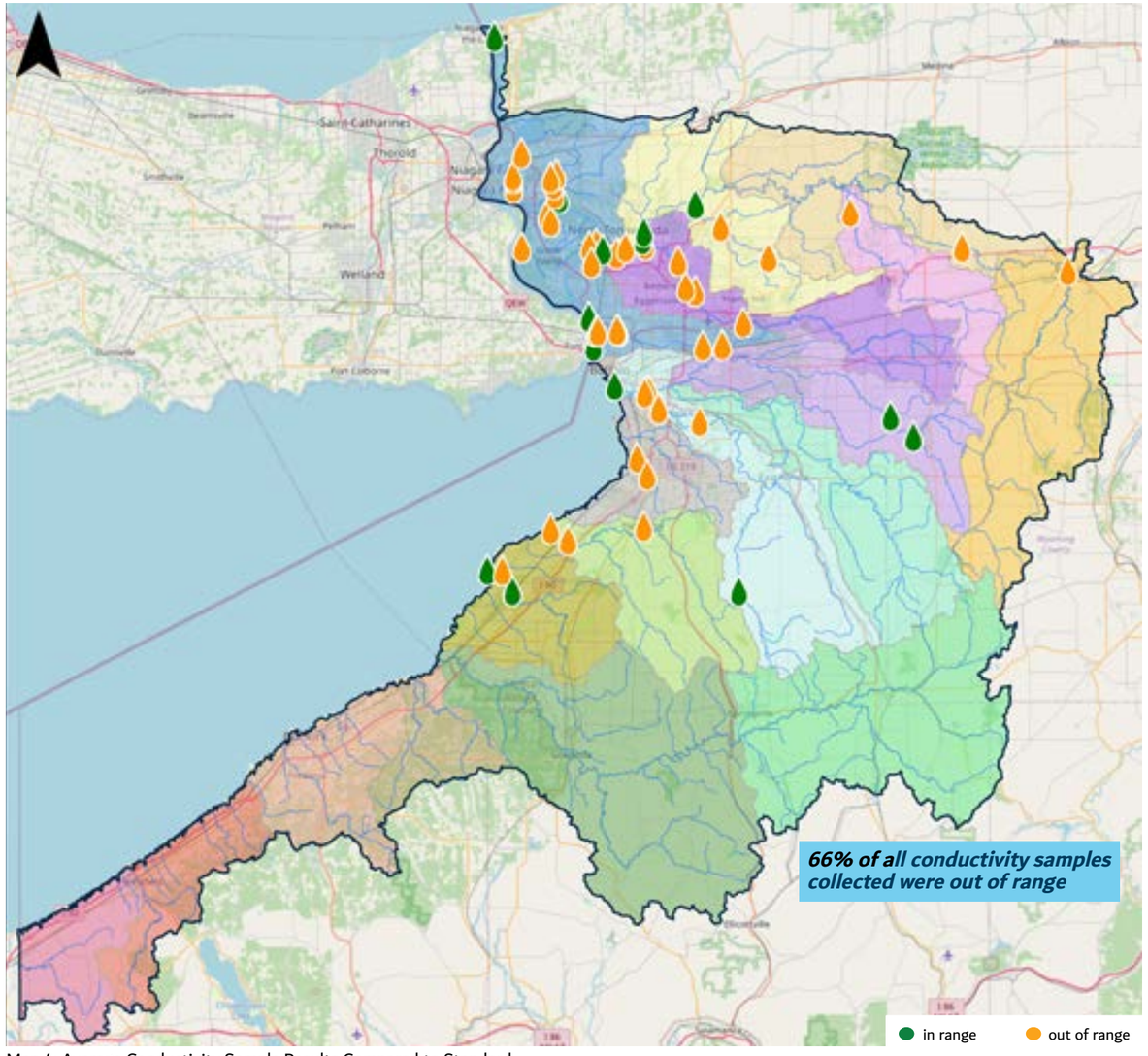
Map 3: Average Dissolved Oxygen Sample Results Compared to Standard


Little Sister Creek at Lake Erie


White water-lily

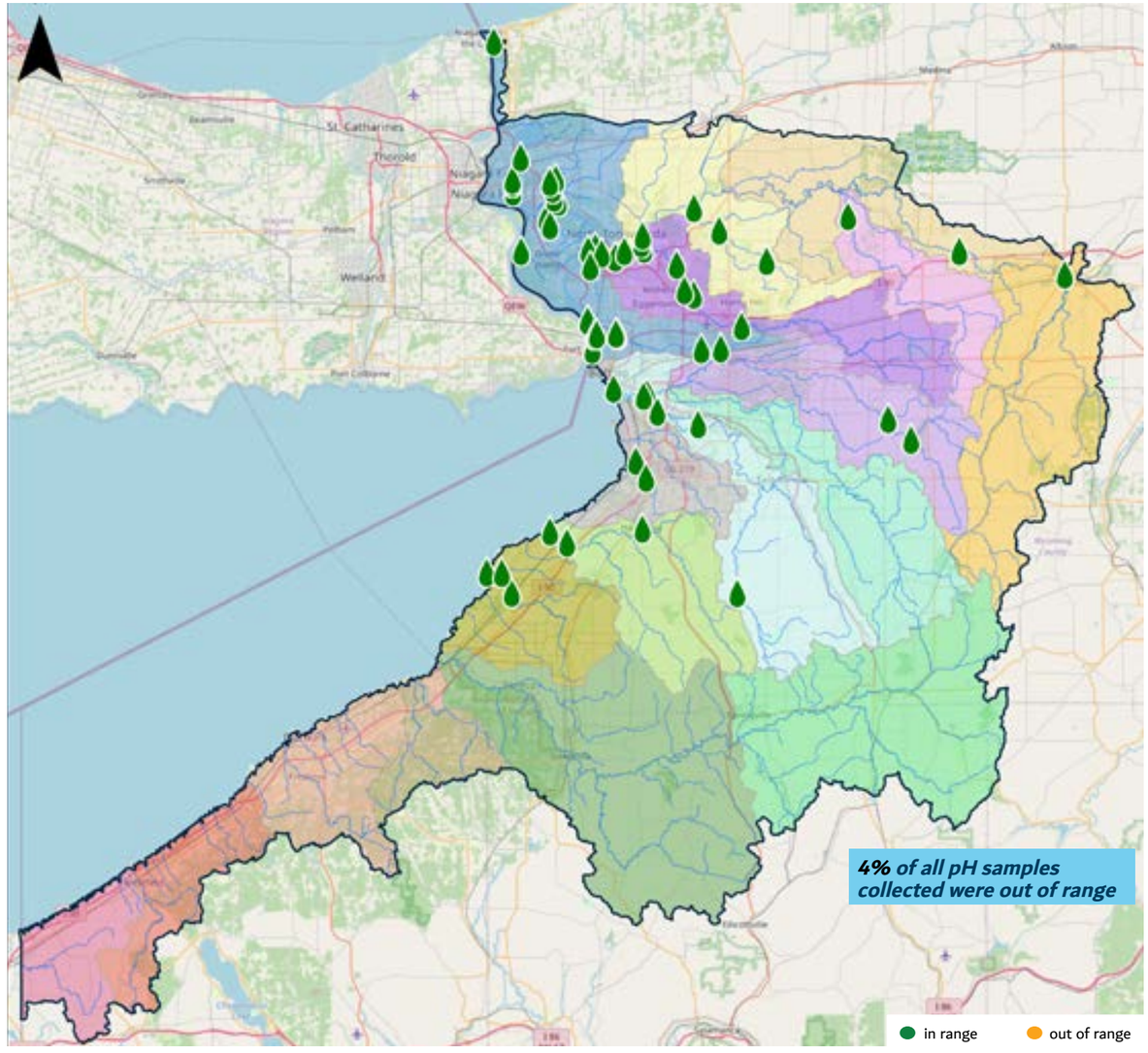

Cayuga Creek, Wyoming County

CONDUCTIVITY RESULTS COMPARED TO STANDARDS



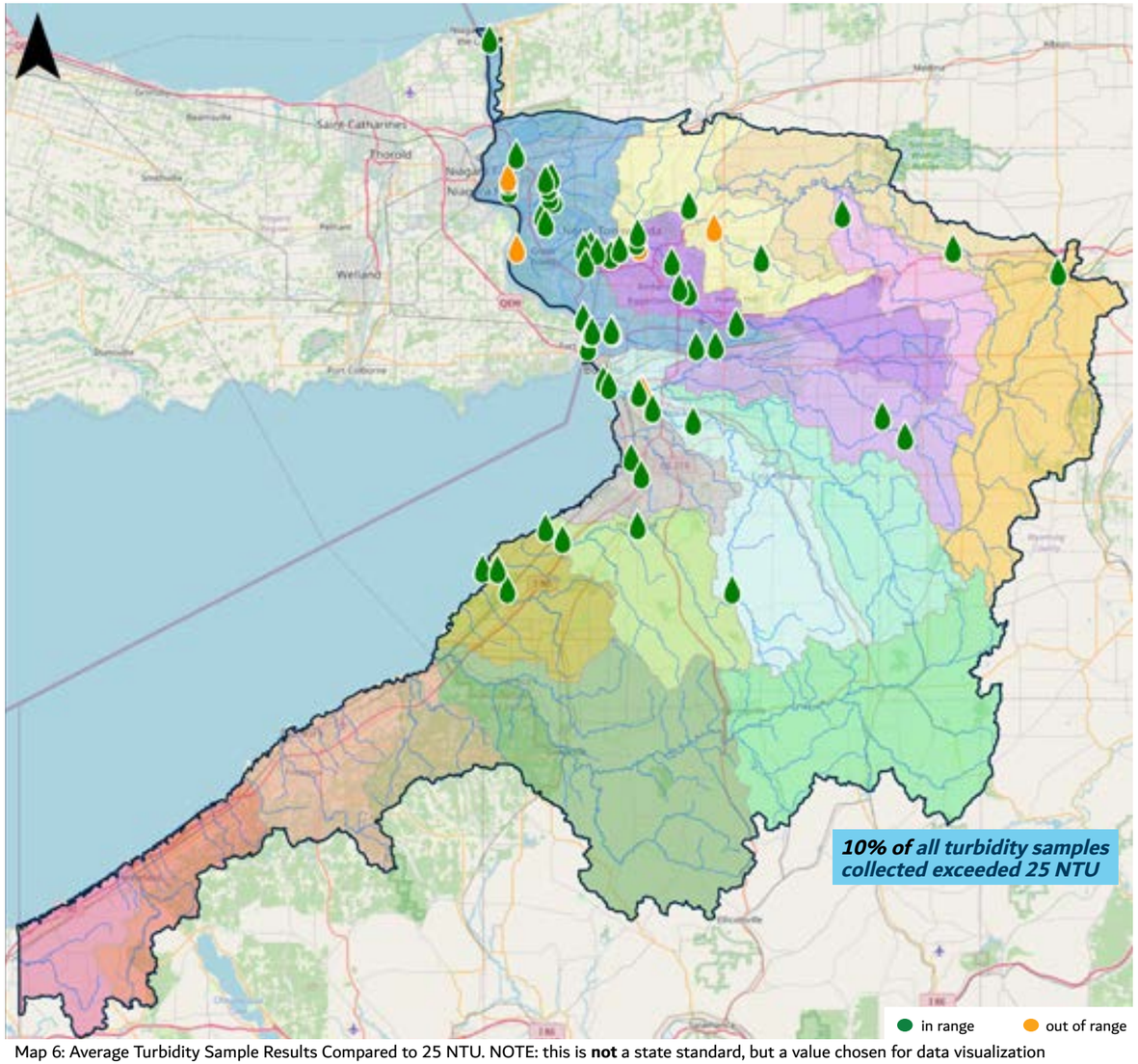
Map 4: Average Conductivity Sample Results Compared to Standard

pH RESULTS COMPARED TO STANDARDS

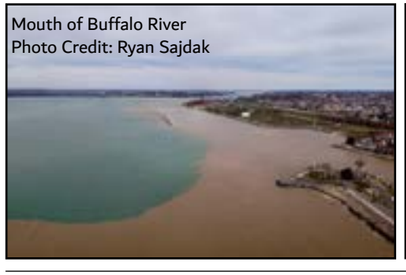


Map 5: Average pH Sample Results Compared to Standard

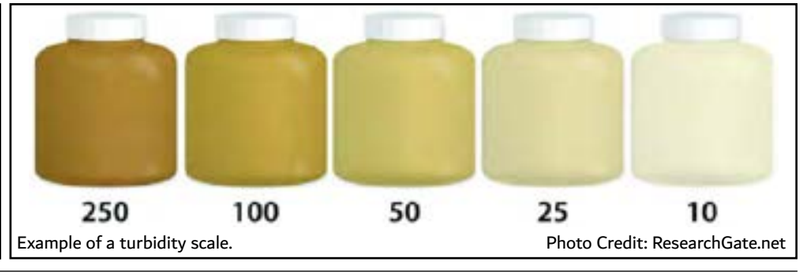
TURBIDITY RESULTS



Map 6: Average Turbidity Sample Results Compared to 25 NTU. NOTE: this is **not** a state standard, but a value chosen for data visualization



Mouth of Buffalo River
Photo Credit: Ryan Sajdak



Example of a turbidity scale. Photo Credit: ResearchGate.net

MEET THE RIVERWATCH TEAM

Buffalo Niagara Waterkeeper Staff

Waterkeeper staff work to secure program funding, train volunteers, coordinate sampling teams, maintain sampling equipment, and conduct targeted sampling for E. coli bacteria, Harmful Algal Blooms (HABs), chloride, and emerging contaminants such as PFAS, helping to fill information gaps that affect recreation and public health.

Thank you to our dedicated staff team: Sandy Smith, Jeanne Beiter, Liz Cute, Robert Coady, Nick DiNardo, Sky Braeges, Emily Burch, and Jarrett Steffen.

Baseline Water Chemistry Volunteers

Trained volunteers are organized into sampling teams who conduct monthly sampling of preselected sites. In 2025, volunteers regularly sampled 58 sites.

Team 1 (Outer Harbor and Niagara River South): Timm Otterson, Lex Maccubin, Jack Schweigel, Adam Hopper

Team 2 (Ellicott Creek): Steve Hassett, Mark Casper, Sherrill Quinn, Alexis Alfasso

Team 3 (Scajaquada Creek, Buffalo River, Cazenovia Creek): John Sadewater, Peter Schnorr, Matthew Rychlicki, Ellen Bartolomei

Team 4 (Gill Creek and Niagara County Tributaries): Jim Galbo and Kathy O'Connor-Mullen

Team 5 (Grand Island and Niagara County Tributaries): Tom Nicotera, Don Pautler, Pat Smith, Alan Smith

Team 6 (Tonawanda Creek and Cayuga Creek Headwaters): Brian Foley, Jessica Benoit, Henry Burton

Team 7 (Lower Tonawanda Creek and Ransom Creek): Kandy Krampitz-Svec, John Svec, Josh Wilcox, Nadezda Mease

Team 8 (Smoke, Rush, Eighteenmile, and Cazenovia Creeks): Eileen Healy, Kathy O'Connor-Mullen, Frank Balics, Anthony Ramat

Special Recognition: Readers might notice that one volunteer's name appears twice, on two separate teams! Kathy O'Connor-Mullen stepped up this year to fill in a gap for another team, pulling double sampling duty all year. Her long-standing dedication to the Riverwatch Program, and willingness to support another team, allowed us to continue monitoring important tributaries throughout our watershed.

Emily Burch collects a sample from Cattaraugus Creek

Volunteers collect a sample from Woods Creek on Grand Island

Team 8 volunteers Kathy, Anthony, and Eileen

WNY WATERWAYS AND OUR CHANGING CLIMATE

Regional Changes

The Western New York region is seeing the effects of climate change across the Niagara River/Lake Erie watershed, with changes in weather patterns and water levels in the near and long-term timespans. Increased air and surface water temperatures, heavier precipitation, decreasing ice cover, and more extreme storm events are all contributing to adverse impacts on our shorelines.

These conditions lead to increased stormwater runoff, which can cause erosion, flooding, and more sewage overflow into our lakes and rivers. Toxic algae blooms are on the rise, due in part to excessive nutrient-rich stormwater run-off, and ecosystems and habitats may be permanently altered. Our region is at risk for increasing infrastructure failures as coastaland climate stressors overburden already stressed systems. New York State is responding to the Climate Crisis with a series of legislative actions such as the Climate Leadership and Community Protection Act, and funding through the Environmental Bond Act to name a few.

Mouth of Muddy Creek (Town of Evans) November 26, 2025, at 11am

Mouth of Muddy Creek (Town of Evans) November 26, 2025, at 3pm

Seiches

As Lake Erie ices over less frequently in winter, the impact of seiche events on our shorelines has become more severe. Seiches are created by standing waves oscillating through an enclosed body of water. When low pressure systems and associated winds move over Lake Erie from the west-southwest, they blow along Lake Erie's longest axis, from Toledo to Buffalo, which causes the lake to dip in the west and pile water up on the east. These events are most pronounced in the fall and winter months. When storms subside, and wind force decreases, the water piled along the Buffalo coastline flows back into the lake, creating an oscillating wave motion as the water rocks back and forth for hours to days after the peak of the event. Seiche events and associated wind and wave energies often cause localized flooding and shoreline erosion.

Waterkeeper continues to work with local government and community partners to build resiliency in the face of a changing climate. As we wrap up the coastal modeling along the City of Buffalo shoreline, we have expanded modeling and study efforts to include the entire Lake Erie shoreline within New York. This additional data will provide further insights into seiche impacts and potential solutions to mitigate future risk. Our municipal coastal resiliency work continues in the City of Dunkirk as we work with our consultants and community to enhance shoreline resiliency at a popular Lake Erie destination, Wright Park Beach.

Learn more about our work in the Eastern Basin of Lake Erie at
bnwaterkeeper.org/climate-resiliency

RESTORING CRADLE BEACH'S ERODING SHORELINE

Erosion Issues

Cradle Beach, located along the coast of Lake Erie in Angola, NY, is a camp that provides year-long services, including an inclusive summer camp, which serves the needs of children with disabilities and those who come from disadvantaged backgrounds.

An increasing and alarming number of extreme weather events have caused dangerous erosion along the camp's shoreline. In 2020, the camp experienced the largest storm on record, which eroded nearly 50-feet of the dune shoreline. This erosion threatens many of the camp's buildings.

The 20-acre forested wetland on the camp's property, which is adjacent to Little Sister Creek, has been severely damaged by the invasive emerald ash borer. This loss in tree canopy has resulted in a loss of wildlife habitat, increased runoff into Little Sister Creek, and has created open areas for invasive species to colonize.

Working Toward Solutions

Waterkeeper is now partnering with Cradle Beach to create a resilient shoreline along Lake Erie and to complete a reforestation project.

With funding support from the Wendt Foundation and the Community Foundation for Greater Buffalo, Waterkeeper has begun working with the engineering firm Ramboll to develop a conceptual design for the property's shoreline. In the summer of 2025, a sand fence was installed along the beach. This fencing will work to reduce erosion and create coastal dune habitat by trapping windblown, drifting sand.

The reforestation project will include the planting of 4,000 new trees and shrubs to revitalize the forested wetland. These trees will create a healthy ecosystem for campers, habitat for migratory birds and other wildlife, and are expected to absorb about 500,000 gallons of rainfall and prevent around 100,000 gallons of runoff each year into Little Sister Creek. Plantings will begin in March of 2026 and this work will be completed by the end of 2027. This reforestation project is supported by the National Fish and Wildlife Foundation.

Learn more about this project at:
bnwaterkeeper.org/cradle-beach

Eroding Shoreline Conditions - May 2025

Sand Fence Installation - June 2025

Inland forest conditions after tree loss due to Emerald Ash Borer

HARMFUL ALGAL BLOOMS (HABs)

What is a Harmful Algal Bloom?

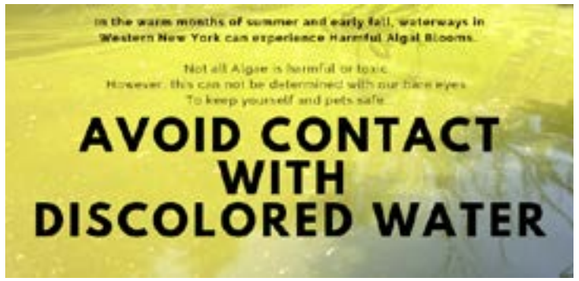
Harmful Algal Blooms (HABs) are excessive population growths of algae that cause harm to human health, ecosystems, or the economy. Most algae are harmless and are components of a healthy aquatic ecosystem. The algae of highest concern in Western New York are cyanobacteria, Cladophora sp., and euglenoids. Cyanobacteria blooms can produce toxins that have resulted in contaminated drinking water in Lake Erie and New York.

What Causes Harmful Algal Blooms?

HABs are likely to occur in slow moving water with excess nutrients like nitrogen and phosphorus. Warm temperatures and abundant sunlight also create ideal conditions for blooms. HABs are more likely to occur with our changing global climate.

What is the Health Risk?

HABs are harmful to people and animals. Exposure to toxins produced by cyanobacteria include stomach, skin, eye, and throat irritation, allergic reactions or breathing difficulties. If you think you are experiencing health risks associated with a HAB, consider visiting a healthcare professional. Pets should not enter water with a suspected HAB. Dogs and livestock that swim or drink water that contains microsystin and other cyanotoxins can become severely ill or die. Even after visible blooms subside, the toxins may still be present in the water.



Report a HAB

To report a potential bloom to DEC, fill out and submit a Suspicious Algal Bloom Report Form.
Visit their webpage:
dec.ny.gov/chemical/77118.html

You can also notify Waterkeeper by submitting a report, using the QR code below or by emailing a photo and location information to Rob Coady at rcoady@bnwaterkeeper.org

For additional information visit:
bnwaterkeeper.org/harmful-algal-bloom/

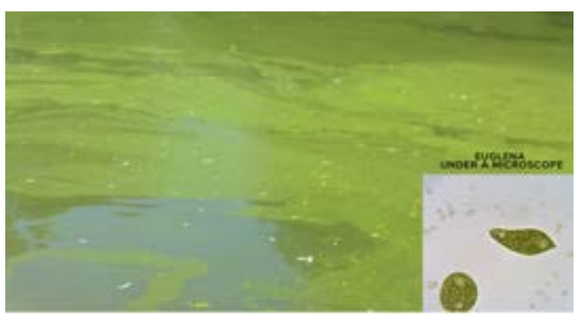
Blooms in Lake Erie

Cyanobacteria blooms have become prevalent in the western and central basin of Lake Erie in recent years. In recent years, HABs have also been reported at and near Presque Isle State Park, located along the Lake Erie coast in Pennsylvania. Updates can be found during the year on the Department of Health's webpage:
eriecountypa.gov/departments/health/services-and-programs/health-and-wellness/beach water-testing-results

The state of Pennsylvania has also put together a HABs Taskforce to continue exploring this issue. Recent and historic HABs monitoring data can be viewed here:
arcgis.com/apps/dashboards/9b653809b2724ff299dc1b5b3d1c546b

For additional information, including forecast models visit: glerl.noaa.gov/res/HABs_and_Hypoxia

Cyanobacteria Bloom



***Euglena* Bloom**

HARMFUL ALGAL BLOOMS (HABs)

Blooms in the Niagara River/Lake Erie Watershed

Waterkeeper staff respond to HAB reports made by Riverwatch volunteers and community members throughout the year. A water sample may be collected by trained staff if deemed necessary and identified using a microscope. Waterkeeper then reports HABs to the DEC. **HABs are dangerous and should not be touched without proper training and protective equipment.**

Waterways in our watershed can experience different types of HABs. Some waterways are prone to Cyanobacteria blooms while others are prone to ***Euglena* blooms**. *Euglena* are single-celled flagellated microorganisms that feature both plant and animal characteristics. Some species of *Euglena* are known to produce ichthyotoxins. To the bare eye, *Euglena* blooms and cyanobacteria blooms look very similar. The difference is evident when looking at a sample under a microscope.

The following waterbodies in the Niagara River/Lake Erie Watershed were documented with blooms in 2025. Blooms on private property are not included. Blooms are recorded by the DEC and can be viewed here:
dec.ny.gov/environmental-protection/water/water-quality/harmful-algal-blooms

- **Clear Lake** in North Collins had a bloom confirmed by the DEC in August.
- **Ellicott Creek** has experienced frequent and persistent Euglena blooms during the summer and fall over several years. The creek offers abundant public access and is a popular spot for paddling and fishing.
- **Green Lake** is located in Orchard Park and was formed by damming the South Branch of Smokes Creek. The lake has experienced HABs in the past. Following a bloom and beach closure in 2024, a cyanobacteria bloom was confirmed again in 2025 and the beach remained closed throughout the summer.
- **Gill Creek** is a 7.6-mile stream that originates in wetlands on Tuscarora Nation lands and flows south through the City of Niagara Falls, passing near Hyde Park, before discharging into the Niagara River. A harmful algal bloom was confirmed by DEC near Porter Road in July 2025.
- **Hyde Park Lake** is a man-made lake, created by damming Gill Creek. The lake was monitored weekly by Waterkeeper during the summer of 2025. Dolichospermum and Aphanizomenon, two cyanobacteria species, were consistently detected at Duck Island from June through October. Monitoring is ongoing with support from Riverwatch Volunteers.
- **Java Lake** in Wyoming county had a bloom confirmed by the DEC in September.
- **Lake Kirsty** located at Tifft Nature Preserve had a bloom confirmed by the DEC in July.

Euglena Bloom at Ellicott Creek

Cyanobacteria Bloom at Hyde Park Lake

How can I make a difference?

1) Reduce or eliminate the over-application of pesticides and fertilizers near waterbodies, especially if rain is forecasted within a few days of the application.

2) Encourage landowners or operators adjacent to vulnerable waterbodies to not mow to the water's edge; allow for a buffer zone of vegetation to help filter surface run-off into waterways.

3) Contact your elected officials about HAB concerns and the need for more monitoring, testing, and projects that can help alleviate this growing problem.

4) Report the problem.

5) Make a donation to Buffalo Niagara Waterkeeper to support programs like Riverwatch, which samples for HABs and other threats to our waterways and keeps the public informed. Donate today at: bnwaterkeeper.org/donate

BACTERIA SAMPLING

Bacteria Basics

Bacteria are single-celled organisms naturally found in the environment. Some bacteria are harmless to humans and can actually help aid natural processes. *Escherichia coli (E. coli)* is a bacterium found in the environment, foods, and intestines of people and animals. Many strains of *E. coli* are harmless to humans. However, some strains can result in serious health problems and sickness. *E. coli* is a strong indicator of sewage pollution or animal waste contamination when found in local waterways.

Combined Sewer System 101

Most older cities and municipalities in New York State, including the cities of Buffalo and Niagara Falls, have combined sewer systems. In contrast, most outlying suburban areas utilize separate storm and sanitary sewers.

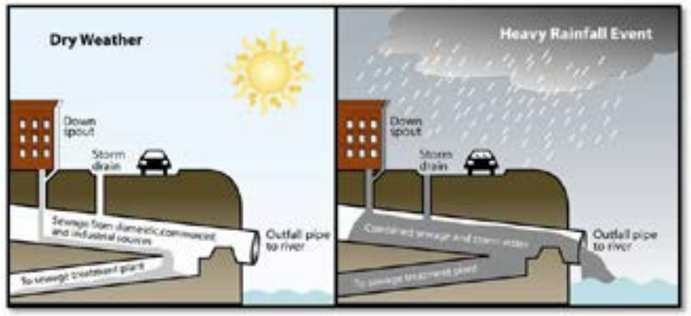
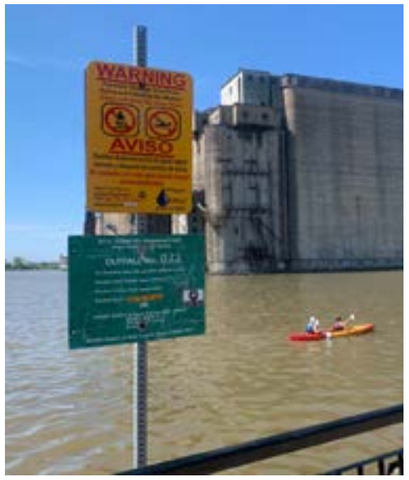


Image: EPA

During rain events in a combined sewer system, water from streets, roofs, and lawns flows into storm drains and combines with sewage in one system. When there is heavy rainfall, the volume of water overwhelms the system and overflows into local waterways by design. These overflows are referred to as Combined Sewer Overflows (CSOs). These overflows contain not only stormwater, but untreated human waste, toxins, and debris. When improperly maintained, septic systems also have the potential to discharge bacteria and pathogens into area waters.



Example of CSO Signage along the Buffalo River

Sampling

Waterkeeper staff sampled 31 sites during 2025 between the months of May and November for *E. coli* bacteria. Locations were selected based on the presence of combined sewer outfall pipes nearby or the presence of a kayak launch. Some sites were not sampled each month due to access issues or weather related events. Samples were analyzed using the R-CARD® Rapid Test Method. Samples were collected during a dry weather period and a wet weather period. Some months only allowed for the collection of samples during either dry weather or wet weather.

- **Dry Weather Period:** A water sample can be collected at the sample site if there has been no rain in the past 3 days.
- **Wet Weather Period:** A water sample can be collected at the sample site during a rain event or immediately after a rain event. A qualifying rain event is 5 hours of rain OR ½ inch of rain at the sample site.

Results

Sampling results were compared to the EPA's Beach Action Value (BAV) of 235 cfu/100mL. This value is often used for making beach notification decisions (i.e., closures or advisories). As seen in Figure 1 on the following page, higher levels of *E. coli* are typically recorded during wet weather periods versus dry weather periods. It continues to be very common for sampling sites to exceed the BAV after wet weather events. If there are frequent dry weather exceedances, Waterkeeper will often conduct additional sampling and notify the municipality.

Caution should be made when recreating in local waterways during, or soon after, wet weather periods. Waterkeeper will continue to conduct bacteria sampling of local waterways to better inform community members of waterway conditions and to track down pollution sources.

These results were uploaded to Swim Guide, a website and app that presents free water quality information for over 10,000 possible swimming and water recreation locations in multiple countries. Explore Swim Guide today at theswimguide.org To view detailed sampling results visit bnwaterkeeper.org/our-impact/water-quality

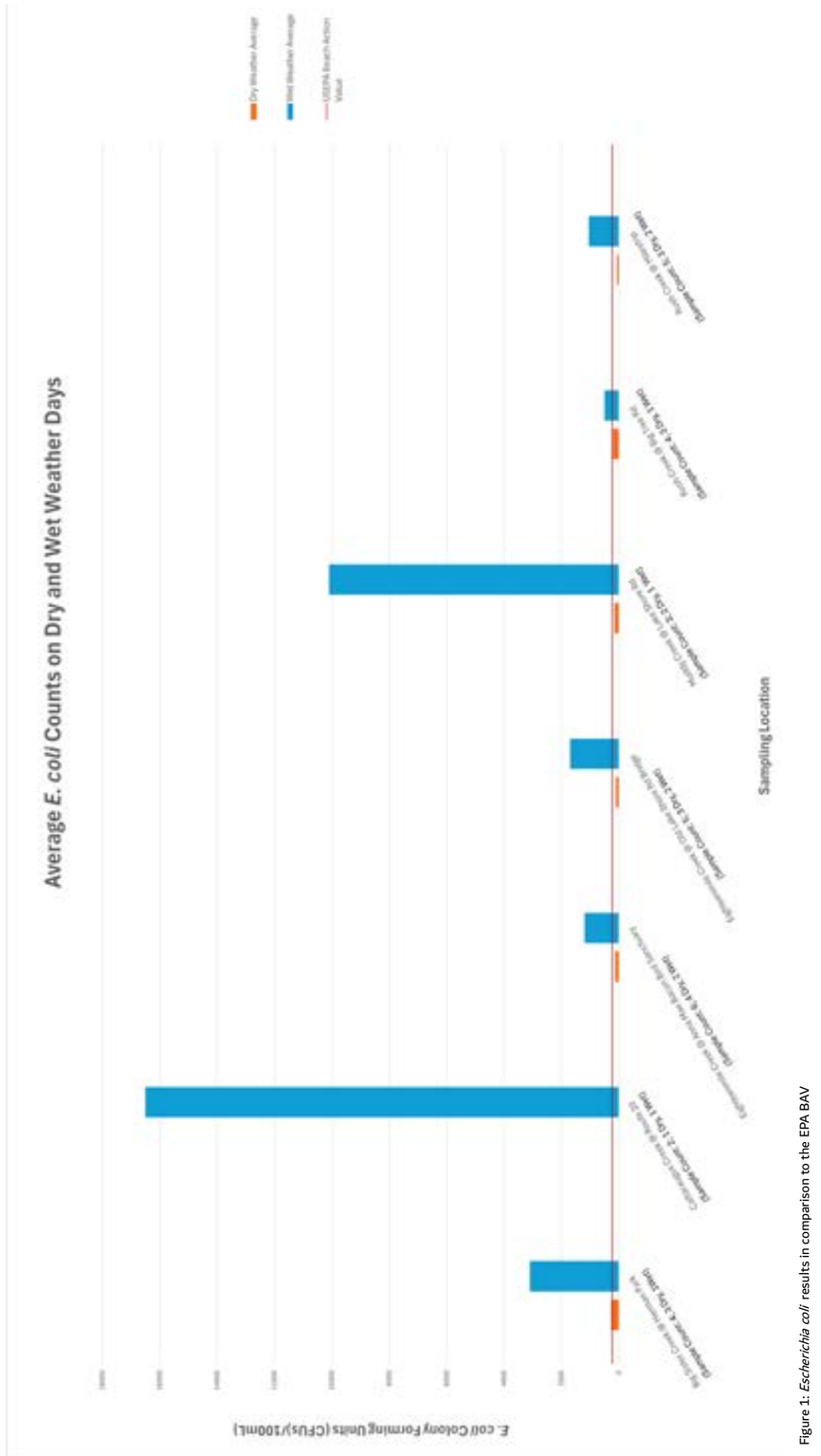


Figure 1: *Escherichia coli* results in comparison to the EPA BAV

PFAS SURFACE WATER TESTING

What are PFAS?

PFAS, or Per- and polyfluoroalkyl substances, are a large, diverse class of man-made chemicals. There are over 15,000 PFAS chemicals, often referred to as 'forever' chemicals because they do not naturally break down. Exposure to these chemicals have been linked to a variety of health effects including cancer, liver damage, decreased fertility, and others. Learn more about PFAS at: bnwaterkeeper.org/pfas-pfoa-pfos

PFAS and Drinking Water

Experts estimate that more than 200 million Americans are exposed to PFAS through drinking water.[1] The New York State Department of Health (NYS DOH) currently regulates 2 of the more common PFAS chemicals in public drinking water supplies. The regulation sets a drinking water standard of 'Maximum Contaminant Level (MCL)' of 10 parts per trillion (ppt) for both PFOS and PFOA. If a public water supply exceeds the MCL, actions must be taken to notify the public and create a plan to reduce the levels of PFAS in the drinking water.

In April of 2024, the EPA issued the first-ever National Primary Drinking Water Regulation for 6 PFAS chemicals, including PFOS and PFOA.[2] This regulation would set a MCL for PFOS and PFOA at 4 ppt for public water supplies. The EPA had also set MCLs for four additional PFAS not currently regulated in New York State. However, as of the fall of 2025, the EPA had proposed a timeline extension for water supplier compliance for the PFOS and PFOA MCLs from 2029 to 2031 and also proposed rescinding regulations for the other 4 PFAS chemicals (PFHxS, PFNA, PFBS, and GenX). [3] As of December 2025, no changes have been made final.

The NYS DOH is in the process of establishing new regulations for 23 additional PFAS chemicals.

Read more about the DOH's actions on PFAS here: health.ny.gov/environmental/water/drinking/emerging_pfas_publicwater.htm

Image source: torrentlab.com/pfas-testing

PFAS Surface Water Sample

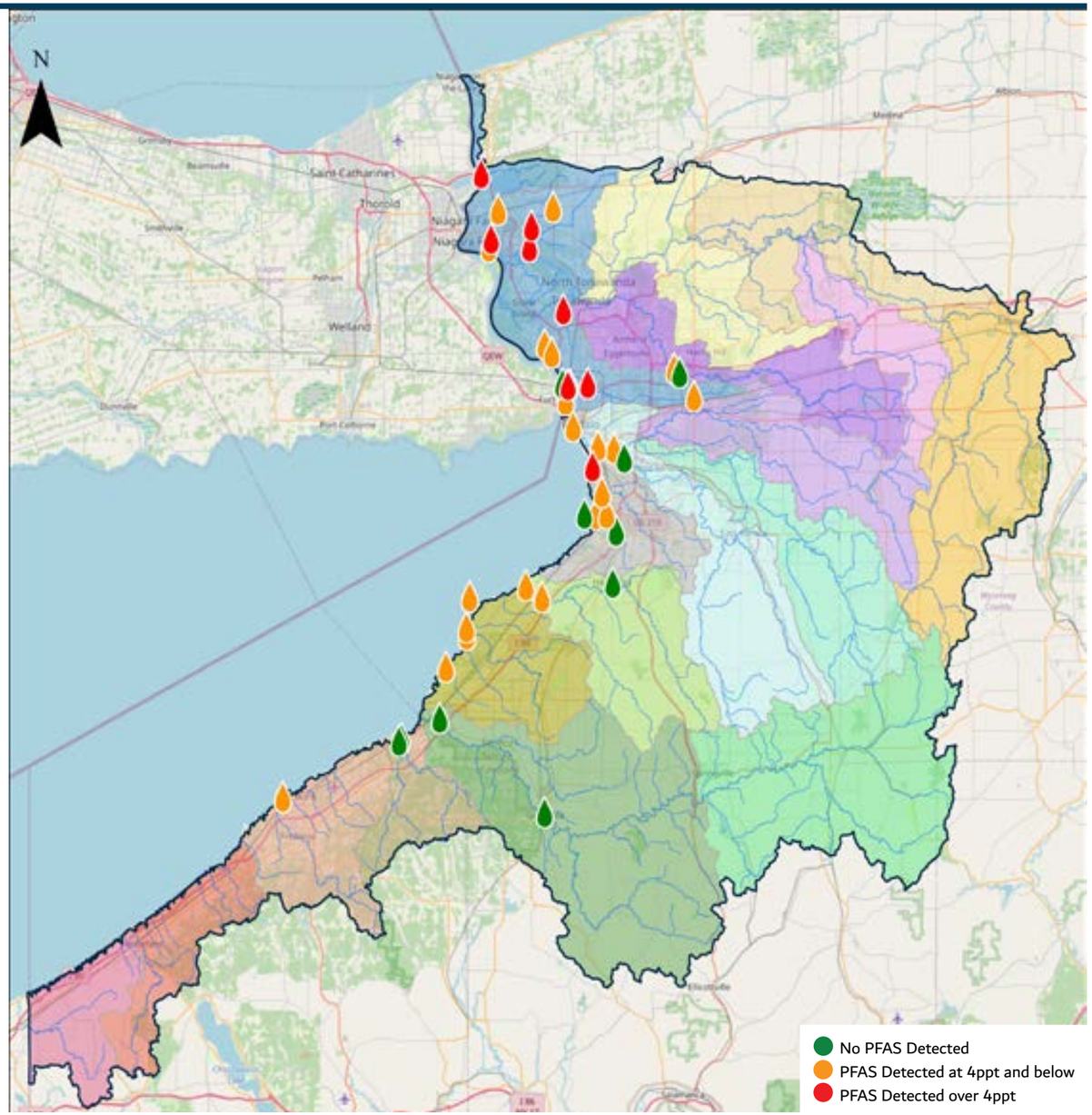
PFAS and Surface Water

Surface waters currently lack protections from PFAS chemicals. Experts estimate that nearly 30,000 facilities discharge PFAS into surface waters in the U.S.[4] These discharges are currently unregulated, as the EPA has not designated any PFAS as hazardous substances under the Clean Water Act. Read more about the EPA's actions on PFAS here: epa.gov/pfas/key-epa-actions-address-pfas

New York State is making progress toward regulating PFAS discharges into waterways. In December of 2025, the DEC released new guidance for publicly owned treatment works, or sewage treatment plants, which establishes how previously created guidance values for PFOA, PFOS, and 1,4-Dioxine will be applied to State Pollutant Discharge Elimination System (SPDES) permits. This guidance will create a framework to control industrial waste entering their systems. In 2023, the DEC released final ambient water quality guidance values for PFOA, PFOS, and 1,4-Dioxane to protect our states aquatic systems. Read more about the DEC's Actions here: dec.ny.gov/environmental-protection/water/emerging-contaminants

Starting in 2022, Waterkeeper began collecting surface water samples from waterways in Western New York. To date we have collected samples from 22 different waterways throughout the watershed. To the right is a map showcasing sample locations and where PFAS chemicals have been detected. For more comprehensive results and to explore the data in an interactive map visit: bnwaterkeeper.org/pfas-pfoa-pfos

1 ewg.org/news-insights/news-release/study-more-200-million-americans-could-have-toxic-pfas-their-drinking
2 https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas
3 https://www.epa.gov/newsreleases/epa-announces-it-will-keep-maximum-contaminant-levels-pfoa-pfos
4 ewg.org/news-insights/news-release/2021/07/twelvefold-increase-suspected-industrial-dischargers-forever



Map 7: PFAS sampling locations and results

CHLORIDE MONITORING

Why is chloride in our waterways?

Chloride is added to road salt (deicer) because it lowers the freezing point of water, slowing the formation of ice. Sodium Chloride is a common deicer used in the United States. Chloride is naturally found in freshwater systems, but levels can become elevated due to runoff containing road salt.

Excess road salt along roadway
Photo Credit: Elizabeth Oldfield

Impacts of Chloride Pollution

Studies have shown negative impacts of high levels of chloride on aquatic life [1] and drinking water. [2]

- **Drinking water:** As salt accelerates the corrosion of pipes in our water systems, it leaches metals, including dangerous metals like lead, into our drinking water. If chloride enters the groundwater, drinking water systems can become contaminated.
- **Fish and aquatic organisms:** Chloride can decrease organisms' productivity and overall abundance. Species composition tends to shift toward more "salt-tolerant" species. At very high levels, chloride can be toxic, causing harm and possibly death.
- **Infrastructure:** Chloride can corrode metal, concrete, bridges, vehicles, drainage systems, highway fixtures and drinking water pipes.
- **Soil:** Chloride can deplete soils of essential plant nutrients.
- **Plants:** Chloride in high concentrations, usually along roadsides, can cause leaf burn and can damage root function resulting in slow growth or death. Over time, the plant community structure can change, and more salt-tolerant non-native plants can establish.
- **Pets:** Chloride can harm pets paws and can cause issues if they ingest large amounts.

Sampling

In November 2024, Waterkeeper began sampling a select group of local waterways for chloride to better understand waterway health and explore the impacts of road salt in the Niagara River/Lake Erie Watershed.

A sample was collected from each site before the first snowfall and before any road salt was applied, during dry conditions in November. Results from the November sample served as a baseline for the waterway. Additional samples were taken in March and April 2025, after the heaviest snowfall months, once the waterways were safely accessible.

Results

Samples were analyzed by the Erie County Department of Health Laboratory. Our data set was compared to the USEPA's recommended chronic aquatic life criteria for chloride, which is 230 mg/L. [3] A chronic limit refers to the highest concentration of a substance that is not expected to harm most aquatic life over long-term exposure. At this time, New York State does not have a state standard for chloride in waterways.

Our sample size was limited, with only three samples collected at each of the five locations. As seen in Figure 2 on the following page, the two highest readings were in March, after the winter months when road salt is applied. The highest levels were recorded in March at Rush Creek and Scajaquada Creek.

These locations are downstream of busy urban roadways, where higher amounts of road salt are likely to be applied. The Rush Creek sample was collected downstream of Milestrip Highway (Route 179), and the Scajaquada Creek sample was collected downstream of many stormwater inputs from the Scajaquada Expressway (Route 198). Both waterways' chloride concentrations decreased from March to April, which could be due to reduced road salt usage due to warmer weather and decreased snowfall.

What is next?

Waterkeeper will continue monitoring chloride levels at these sites for another season and will continue to share results to raise awareness of the impacts of road salt on local waterways and to spur conversations in relation to road salt application practices and water quality improvement projects.

1 https://www.usgs.gov/centers/upper-midwest-water-science-center/science/evaluating-chloride-trends-due-road-salt-use-and
2 https://www.health.ny.gov/environmental/water/drinking/salt_drinkingwater.htm
3 https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table

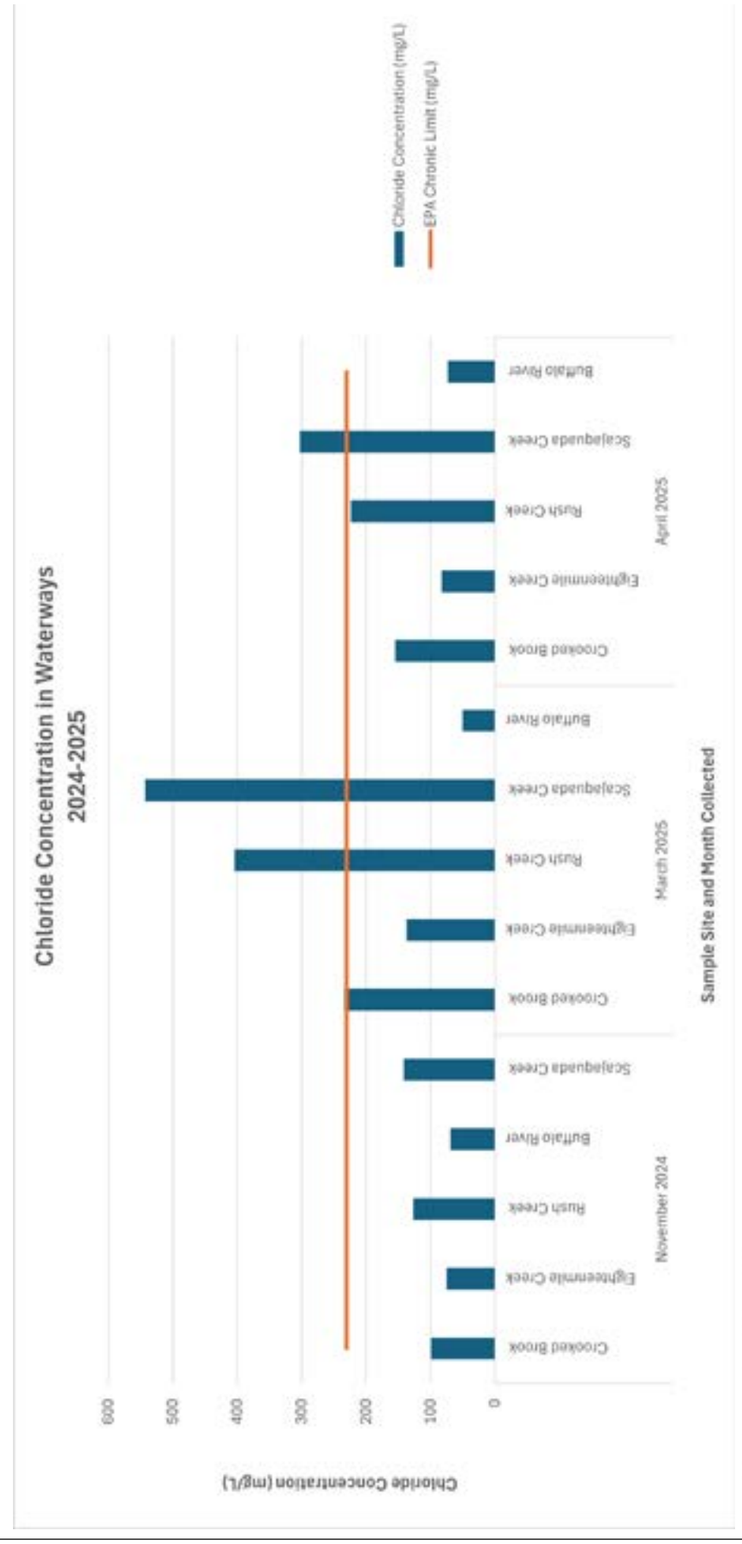


Figure 2: Chloride results from 2024 and 2025

RESTORATION PROJECT HIGHLIGHT

What is a Living Shoreline?

Starting in 2013, Waterkeeper has been transforming degraded shorelines throughout WNY utilizing innovative methods and approaches. This restoration is needed as much of the shoreline habitat has been greatly altered from its natural state. These shoreline restoration projects enhance water quality, habitat integrity, and natural functions, while transforming the sites to a more resilient, self-repairing form. Characteristics of Living Shorelines include gradual natural slopes, native and naturalized plant species, and other natural materials that help to buffer the shore from storm effects and hydrologic forces. Learn more about the Living Shorelines Program here:
bnwaterkeeper.org/living-shorelines

Gill Creek Green Infrastructure Project

Gill Creek is a highly impaired tributary to the Niagara River that flows through the Tuscarora Nation, Town of Lewiston, Town of Niagara, and City of Niagara Falls in Niagara County, New York. Gill Creek was dammed about 1.2 miles upstream from the creek's mouth to create the 30-acre Hyde Park Lake.

Waterkeeper worked with the City of Niagara Falls to implement a Green Infrastructure Project to improve water quality within Hyde Park Lake. The project aimed to address point and non-point source runoff and pollution entering the creek from two stormwater pipes and from the nearby public golf course. This location has experienced frequent Harmful Algal Blooms (HABs) since 2017.

Through this project, the two stormwater pipes that were flowing directly into the lake were cut back and large catch basins were installed as a first step in filtration. Once stormwater flows into the catch basin it is then directed through two new wetland areas to capture and infiltrate over 2 million gallons of stormwater runoff annually. Additional restoration elements include nearby meadow plantings, the creation of additional wetland habitat, and tree plantings along the shoreline. A fountain was also installed in the lake to help with aeration.

Construction began in the spring of 2025 and wrapped up in fall of 2025. Over the next year project partners will monitor the project and will complete follow up invasive species treatments and native plantings to ensure it is establishing in alignment with project goals. Waterkeeper and the City of Niagara Falls are working to complete further studies and additional improvements along the Gill Creek corridor in an effort to combat HABs.

Learn more about this project at:
bnwaterkeeper.org/gillcreek-green-infrastructure

Major funding for this project was provided by the U.S. EPA's Great Lakes Restoration Initiative and the Niagara Falls Host Community Standing Committee.

Map 8: Project Location at the north end of Hyde Park Lake

Mid-construction: Installation of a catch basin

Post-construction: Site conditions as of fall 2025

NURDLE PATROL

Tiny plastic pieces create big problems for aquatic ecosystems

What is Plastic?

Found in many forms in our everyday life, plastic is a lightweight, durable material that can be made into almost anything. Plastics are polymers, which are modeled after naturally occurring polymers found in hair, skin, and DNA. Most plastic is made of synthetic polymers derived from fossil fuels, a non-renewable resource.

Plastics degrade over time. This process is accelerated when the plastic is exposed to heat, light, chemicals or natural processes. Chemical additives are often mixed into the plastic polymer to slow this breakdown. These additives are not chemically bound to the polymer and they can leach out into the environment in certain conditions.

More Plastic, More Pollution

Plastic use and production has increased over time, specifically in the Post-World War II era with increased consumerism and the mass production of goods. Currently, nearly 8.8 billion pounds of plastic is produced each year, of which less than 10% is recycled.[1] By 2015, humans had generated 8.3 billion tons of plastics.[1] The negative impacts can be seen worldwide, specifically in water ecosystems, with numerous species of birds, turtles, and fish becoming entangled in or ingesting plastic material. Often, the plastics being ingested are tiny microplastics, smaller than 5mm in length. Studies have estimated that microplastics make up approximately 90% of plastic pollution in marine environments.[2] In addition to the plastic pollution at the end of the material life cycle, the creation of plastic materials contributes to atmospheric pollution and relies on non-renewable fossil fuels. New ethane cracker facilities and existing petrochemical plants are often located in poor, minority communities, contributing to environmental justice challenges.

Nurdle Patrol Efforts

Nurdles are plastic pellets, about the size of a lentil, that are the raw material used in the manufacturing of plastic products. Nurdles get shipped around the world via ship, train, and truck to plastic manufacturers. Nurdles have been known to spill due to transport issues or escape through holes in shipping containers. The small, lightweight nurdles can then be blown by the wind, washed away down storm drains, or directly into waterways.

In the summer of 2020, a large concentration of nurdles was documented along the banks of the Niagara River in Gratwick Park in North Tonawanda. After this discovery, Waterkeeper joined a larger North American wide citizen science project known as Nurdle Patrol. To learn more about this project visit: nurdlepatrol.org

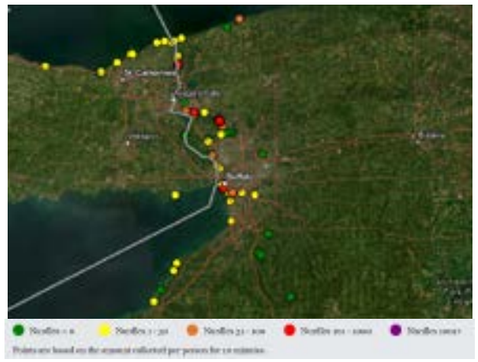
In 2025, over 10,000 nurdles were collected locally and the data was uploaded to the Nurdle Patrol Project. The majority of these nurdles were collected along the Niagara River shoreline at Gratwick Park in North Tonawanda. Waterkeeper was able to train 35 additional volunteers on the nurdle patrol data collection process.

Take Action!

The Great Lakes system, which includes the Niagara River, provides drinking water for nearly 40 million people, including nearly 1 million residents here in Western New York.[3] To protect our water resources, wildlife, and human health, the production of plastics intended for wasteful single-use applications must be reduced. Individuals can conduct an audit of the plastics used in their daily life, and can also advocate to elected officials to support policy that limits the production of single-use plastics.

If you are interested in joining Waterkeeper in our Nurdle Patrol efforts, send an email to Liz Cute at ecute@bnwaterkeeper.org so you can be informed about future training opportunities.

NURDLE PATROL.org



Map 9: Map showing distribution of nurdles collected

Nurdles and other plastics litter the Niagara River shoreline

1 https://www.unep.org/interactives/beat-plastic-pollution/
2 https://www.epa.gov/trash-free-waters/science-case-studies
3 https://www.epa.gov/greatlakes/great-lakes-facts-and-figures

CLEANUPS

Great Lakes CleanUP & Spring Sweep

Waterkeeper continues to bring together 18 locally based organizations each year as part of the Great Lakes CleanUP Coalition to exchange ideas, collect litter data, and share out our collective impact to communities across the basin. These organizations coordinate and implement cleanups in their regions to remove litter, encourage data collection, and inspire stewardship of their local waterways. In 2025, those partners mobilized **14,018 volunteers** to participate and collect data on an estimated **173,344 pounds of litter** that was removed across all 5 Great Lakes.

In Western New York, over **1,200 volunteers** participated in Waterkeeper's annual Spring Sweep, our largest cleanup of the year. Together these volunteers collected **10,975 pounds of litter**. Volunteers were encouraged to input data on litter collected into the Ocean Conservancy's Clean Swell app. Over 32,000 pieces were recorded! Of these items recorded in Clean Swell, 86% were plastic.

The total numbers collected are staggering!

- **5,913 plastic/foam pieces**
- **5,250 cigarette butts**
- **3,340 food wrappers**
- **1,480 plastic beverage bottles**
- **1,445 plastic bottle caps**

The stewardship efforts of volunteers also support Waterkeeper's advocacy work through the power of data collection.

Learn more about the Great Lakes CleanUP at: greatlakescleanup.org

Map 10: Locations of 2024 Great Lakes CleanUP partners

Solo Sweeps

Our Solo Sweep Program continued in 2025, gaining 82 new supporters. The number of Solo Sweeps recorded this year reached over 260, with 31,763 pieces of litter being recorded in the Clean Swell app.

In partnership with Roswell Park Comprehensive Cancer Center, Erie County Parks, and New York State Parks, we introduced a new Beach Bucket program with a mission to keep our beaches and waterways clean this summer and beyond. 'Beach Buckets' were installed at Bennett Beach, Wendt Beach, and Beaver Island State Park to provide guests an opportunity and supplies to assist with litter cleanup. Signage is located alongside the buckets providing instructions on how to utilize the Clean Swell app during their cleanup.

This data, recorded by Solo Sweep volunteers, is critical to plastic pollution prevention advocacy and magnifies the impact beyond the removal effort. Clean Swell data is stored on the largest litter database in the world, TIDES, which is used by educators, scientists, and decision makers to advocate for policies that protect clean water.

Learn more about the Solo Sweep program, and sign the pledge here: bnwaterkeeper.org/cleanups


Spring Sweep Volunteers at the Outer Harbor

A look at the Clean Swell App interface

SOLUTIONS TO ONGOING POLLUTION

Below are three different ways you can reduce pollution in your life.

Downspout Disconnection

Downspouts on many homes are connected directly to the sewer system, contributing to sewer overflows. By disconnecting downspouts from the sewer system, water is able to drain to lawns or gardens, thereby allowing water to soak slowly into the ground as plants and soils filter out pollutants.

Rain Barrels

Rain barrels are containers that collect and store rain water for future uses (like watering a garden) while decreasing the amount of stormwater runoff that leaves your property. A rain barrel is placed under the downspout to channel rainwater into the barrel for later use. Learn more: bnwaterkeeper.org/rainbarrels

Reduce Single-Use Plastic Use

Plastic continues to litter our waterway shorelines and communities. By switching from single-use plastic items to reusable wherever possible, you can help reduce plastic pollution! Another way to help is to call your elected officials and let them know you support legislation that limits single-use plastic pollution! Learn about more tips to reduce plastic waste here: bnwaterkeeper.org/less-plastic

PREVENT POLLUTION WITH BUFFALO NIAGARA WATERKEEPER

Waterkeeper hosts various volunteer events to clean up local waterways and prevent pollution.
For additional information on these events and our other programs, please visit our website - bnwaterkeeper.org

Cleanups

Help support Buffalo Niagara Waterkeeper's mission to protect and restore our water by participating in a Solo Sweep – anywhere, anytime that works for you! Pick up litter, record the data, and join us in advocating for clean water here in Western New York and throughout the Great Lakes region.
Get involved:
bnwaterkeeper.org/cleanups

Volunteer Ambassador Program

The Volunteer Ambassador Program raises community awareness of water pollution issues in Western New York and direct actions to reduce pollution. Ambassadors are highly trained volunteers who represent the organization at various community, school, and organization events and programs. Learn more:
bnwaterkeeper.org/ambassadors

RestoreCorps

Learn about riparian and park reforestation and adaptive management of shoreline restoration sites while helping reduce stormwater runoff from entering local waterways. Join a future native planting event and check out our resources at:
bnwaterkeeper.org/restorecorps

OUR WATER.
OUR FUTURE.

BUFFALO NIAGARA WATERKEEPER

Only 3% of U.S. philanthropic giving goes to environmental nonprofits, meaning protecting our waterways can not be left to a few — it will take all of us stepping up together. Safeguarding our home a requires neighbors standing side by side with a shared responsibility for the place we call home.

Buffalo Niagara Waterkeeper was founded by citizens banding together to protect the waters that define our region — and that same collective energy is needed now more than ever. Make your donation today to stand with your neighbors who believe our home deserves clean, healthy waterways, and help turn collective commitment into lasting impact.

WWW.BNWATERKEEPER.ORG/SUPPORT