Canandaigua Lake Watershed Council
205 Saltonstall Street Canandaigua, NY 14424 (585) 396-3630

CANANDAIGUA LAKE WATERSHED COUNCIL

Towns: Bristol, Canandaigua, Gorham, Hopewell, Italy, Middlesex, Naples, Potter, South Bristol
Villages: Naples, Newark, Palmyra, Rushville
City: Canandaigua

WHO WE ARE

The Canandaigua Lake Watershed Council (CLWC) consists of the 14 watershed and water purveying municipalities that formed in 1999 through intermunicipal agreement to lead the partnership program to protect Canandaigua Lake. The program is coordinated by a Watershed Program Manager, and the Council is made of the chief elected officials (Supervisors, Mayors) from each municipality. The Watershed Council has been utilized as a model across New York State on how municipalities work together to protect a common resource.

We take a comprehensive, integrated approach that includes scientific research, education, on-the-ground restoration, and regulatory protections implemented through our member municipalities. Our work is guided by watershed planning documents, including the State-approved *Nine Element Plan for Enhanced Phosphorus Management.* Over the last decade, the Watershed Council has brought in several million dollars of grant funds for projects across the watershed.

CLWC collaborates with municipal, county, state, and federal partners, as well as citizen groups, local residents and farmers, to carry out lake-saving projects that restore our watershed to protect water quality. We specialize in projects outside the public right-of-way, where collaboration with private landowners and farmers can make a significant impact. By designing and building most projects in-house, CLWC delivers cost-effective, impactful solutions that protect our water quality.

PROTECTING THE WATERSHED: TOGETHER, IN ACTION

Protecting and restoring a watershed is a shared responsibility—one that no single organization can undertake alone. It requires a dedicated network of partners addressing a wide range of complex and evolving challenges. Together, these organizations support efforts in land restoration and protection, education, research and monitoring, agricultural best management practices, septic system inspection, and homeowner outreach programs—key elements of a comprehensive watershed management program.

Canandaigua Lake Watershed Council
Canandaigua Lake Watershed Association
Canandaigua Lake Watershed Commission
Finger Lakes Land Trust
The Nature Conservancy
Ontario County Soil & Water Conservation District
Yates County Soil & Water Conservation District
Our 14 watershed & water purveying municipalities
NRCS (Natural Resource Conservation Service)
Ontario County Agencies

New partnership in 2025: Friends of Canandaigua Lake - Read more on page 15

THE THREATS TO WATERSHED HEALTH

Canandaigua Lake is the lifeblood of our community, providing clean drinking water for over 70,000 people and supporting recreation, tourism, and the identity of our region. But the lake is under threat.

Canandaigua Lake has historically been a low nutrient (phosphorus and nitrogen) lake. However, our lake is becoming more sensitive to nutrient inputs due to the following factors:

- **Increasing storm intensity**: More frequent high-intensity storms are driving greater runoff into the lake, accelerating the transport and loading of nutrients from the surrounding watershed.
- **Loss of natural filters (our Natural Capital):** Human-dominated land uses—such as development and agriculture—have led to the loss of critical natural filters, including wetlands, forests, meadows, and floodplains. This has diminished our watershed's capacity to absorb and buffer environmental stressors, reducing overall watershed resiliency.
- **In-lake changes driven by the invasive quagga mussel:** The proliferation of quagga mussels, an invasive species, is altering the lake's ecosystem. These mussels increase the lake's vulnerability to nutrient enrichment, further exacerbating water quality concerns.


Flooding in Naples


Invasive quagga mussels


Harmful Algal Bloom (HAB)

In combination, these factors are contributing to the annual appearance of **harmful algal blooms (HABs),** which can produce toxins that threaten both recreational use of the lake and the safety of our drinking water.

While many of these challenges are beyond our immediate control, restoring lost Natural Capital through targeted, lake-saving projects is a key strategy that our community can undertake for long-term protection of the lake and watershed.

WATERSHED PLANNING OVER TIME

Watershed planning has long played a vital role in protecting Canandaigua Lake. A science-based, community-driven approach has guided efforts since the 1980s. The first Watershed Management Plan was adopted in 2001, with a comprehensive update in 2014 addressing key pollutants like nutrients, sediment, and emerging contaminants.

Building on this foundation, the *2023 Nine Element Plan for Enhanced Phosphorus Management (9E Plan)* focuses on phosphorus—one of the key nutrients affecting water quality. The plan quantifies phosphorus sources and sets an ambitious goal: **a 25% phosphorus reduction over the next decade** through targeted management actions.

With no single silver bullet, these watershed plans employ a broad range of strategies to protect and restore the Canandaigua Lake watershed.

CANANDAIGUA LAKE WATERSHED FACTS

WATERSHED AREA
109,000 acres

LAKE SURFACE AREA
10,500 acres

LAKE LENGTH 15.5 miles
AVERAGE WIDTH 1.1 miles

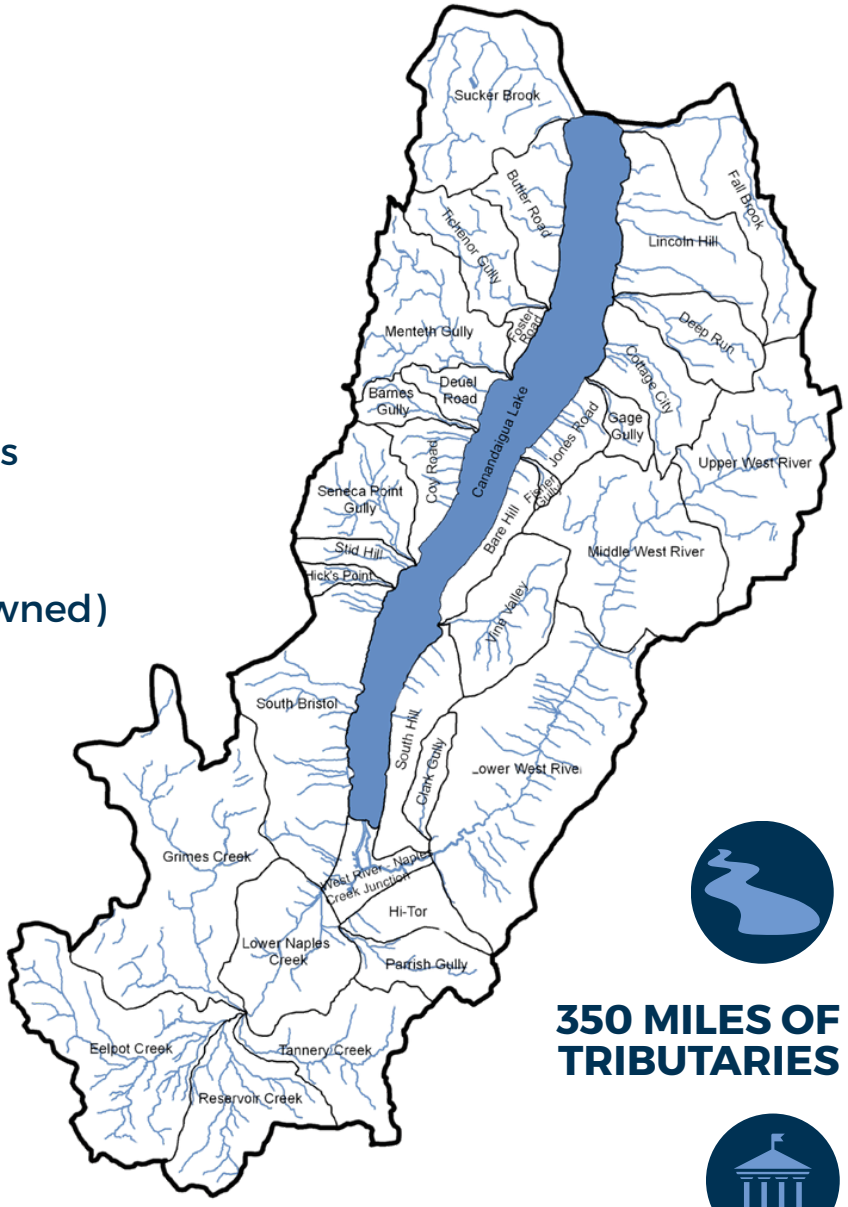
SHORELINE LENGTH
36 miles (97% privately owned)

MAXIMUM DEPTH
276 feet

VOLUME
433 billion gallons

HYDRAULIC RETENTION TIME 13.4 years

DRINKING WATER FOR 70,000 PEOPLE
6 Water Purveyors (City of Canandaigua, Palmyra, Newark, Gorham, Rushville, Bristol Harbour)



350 MILES OF TRIBUTARIES

12 MUNICIPALITIES IN THE WATERSHED

WATERSHED LAND COVER

49% FORESTED

34% AGRICULTURE

12% RESIDENTAL/ COMMERCIAL

5% WETLANDS

RESTORING OUR NATURAL CAPITAL THROUGH LAKE SAVING PROJECTS

Protecting the health of Canandaigua Lake requires not only addressing current challenges but also preparing for future threats. One of the most powerful and cost-effective ways to safeguard the lake is by accelerating the restoration of the watershed's natural systems through targeted, partnership-based projects that improve water quality and enhance flood resilience.

WHAT IS NATURAL CAPITAL?

Natural Capital refers to components of our natural world that provide long-term benefits, such as improved water quality and enhanced flood resilience. These natural systems - like our forests, wetlands, meadows, and shoreline buffers - deliver vital services to people and society, supporting both ecological health and community well-being. When we invest in protecting and restoring these systems, we are investing in the health, resilience, and economic vitality of the region.

BUILDING COST-EFFECTIVE SOLUTIONS WITH LOCAL PARTNERSHIPS

By designing and constructing many of these lake-saving projects in-house using municipal labor, we significantly reduce costs and increase efficiency. This approach allows limited funding to go further—getting more work done on the ground, faster and at a lower cost—while also building local expertise and capacity for ongoing watershed restoration. Our municipalities consistently demonstrate their commitment to the lake, working across municipal boundaries to help implement restoration projects throughout the watershed.

Through strong collaboration with our municipalities, NYS agencies, landowners, and community partners, we're taking a proactive approach to protecting Canandaigua Lake. Together, we're safeguarding its long-term health while building a more resilient watershed capable of adapting to the challenges ahead.

Naples Creek Floodplain Restoration Project
Reconnecting the floodplain allows floodwaters to slowly filter through open lands for water quality and flood resiliency benefits before reaching Canandaigua Lake

Research shows up to 50% removal of phosphorus from these types of restoration efforts.

Municipal crews removed sections of the berm to reconnect the floodplain, giving Naples Creek more frequent and **expanded access to hundreds of acres of floodplain storage**. This restored connection provides significant water quality treatment before the water flows into Canandaigua Lake.

Naples Creek Floodplain Restoration: Improving Hydrologic Reconnection

A long history of berming had prevented Naples Creek from accessing its natural floodplain. A transformative series of projects has now restored this vital connection. By strategically allowing floodwaters to slowly spread into the surrounding landscape, the floodplain can once again filter pollutants, improve water quality, and recover lost ecological functions—while also slowing water movement and reducing downstream peak flows.

This large-scale initiative spanned a significant area and included:

- 13+ new berm breaks allowing floodwaters to safely enter floodplain while improving water quality
- 7 new culvert systems to convey flow into water quality storage areas
- 110 acres of land permanently protected, including 6,300 feet of riparian corridor
- 4 debris jams removed from the stream and bridge areas to clear blockages and improve habitat
- Enhanced trail system along stream and allowed flow to access adjacent forested floodplain system

Project Partners: NYS Department of State, Town of Naples, Town of Canandaigua, The Nature Conservancy, FLLOWPA (Finger Lakes / Lake Ontario Watershed Protection Alliance), Ontario County Water Resource Council (WRC), Canandaigua Lake Watershed Association (CLWA)

Before: berm along stream was blocking access to the floodplain

Reducing Flooding and Improving Water Quality in the Town of Hopewell

A branch of Fallbrook Stream in the Town of Hopewell drains an area of approximately 212 acres, which is prone to heavy sediment and nutrient loading from nearby agricultural fields during intense storm events. These storms have caused recurring flooding, with runoff spilling over onto Route 5&20 and Smith Road. In 2023, two significant flood events from this drainage area severely impacted businesses along the 5&20 corridor.

To improve downstream water quality and reduce flood impacts, a 3.5-acre stormwater management basin was constructed on a site with high development potential. The Canandaigua Lake Watershed Council partnered with the landowner, who generously donated a 5-acre easement to the Town of Hopewell and contributed engineering services. Municipal crews collaborated to excavate the basin, using the material to construct a berm that temporarily stores stormwater. An outlet structure gradually releases the water into a tributary of Fallbrook, ensuring a controlled flow. The entire site was seeded to enhance erosion control. This project highlights the strength of public-private partnerships in advancing watershed resilience.

Upon completion, **results show more than an 80% reduction in peak flow rates** from the site. Since the improvements, several significant storm events have impacted the area, including the remnants of Tropical Storm Debby in 2024. During that event, the basin activated and helped contain floodwaters that might otherwise have overtopped Routes 5 & 20. Looking ahead, future goals include securing easements on an additional 15–20 acres surrounding the basin to expand its effectiveness.

The project included municipal assistance from the Towns of Hopewell, Canandaigua, Gorham, and East Bloomfield, and the City of Canandaigua. Additional funding was provided by FLLOWPA.

Before:
Town of Hopewell Highway Superintendent Matt Curran standing along a major erosion channel in the agricultural field before the stormwater basin was installed.

Water Quality and Flood Resiliency Basin in Action: accepting runoff from an 88-acre agricultural field after the remnants of Tropical Storm Debby

Before: An undersized culvert caused floodwaters from a 5-inch rainfall event to wash away sections of Reservoir Road, the only access to the Village of Naples Water Treatment Plant

After: A much larger culvert and 200 feet of stabilized streambank now help manage peak storm flows and reduce the risk of future flooding

Repairing Reservoir Road and Restoring a Creek: Emergency Response in the Town of Naples

On August 9, 2024, the remnants of Tropical Storm Debby dropped about 5 inches of rain on Naples, severely damaging Reservoir Road — the only access to the Village of Naples Water Treatment Plant. The storm overtopped a 5-foot culvert, destabilizing the bank and washing away 125 feet of road along Reservoir Creek, a valuable trout stream that flows into Canandaigua Lake. Immediate action was needed to maintain access and protect critical infrastructure.

In response, the Canandaigua Lake Watershed Council secured emergency permits for the Village of Naples to replace the undersized culvert and complete 200 feet of streambank stabilization. The original 5-ft pipe (20 sq. ft. opening) was replaced with a 12 ft by 7.5 ft arch culvert (78 sq. ft. opening), dramatically increasing flow capacity. The new culvert better handles peak storm flows, supports fish passage, and protects road access from the threat of future high-intensity storm events. In addition, the 200-foot section of road that was washed out was rebuilt and reinforced, restoring safe access for Village vehicles.

The project restored the site and provided permanent protection against massive sediment loss into Reservoir Creek during future storms—safeguarding both water quality and stream habitat. Construction was carefully managed to avoid disturbing the active stream channel, as the main water line for the Village of Naples and a buried gas line ran beneath the existing culvert.

Initial project estimates were over $100,000. But thanks to strong intermunicipal collaboration—including the Town and Village of Naples, the Town of Canandaigua, and the Canandaigua Lake Watershed Council using the watershed excavator—along with funding support from the Ontario County Water Resources Council, the project was completed for under $50,000.

Expanding Natural Capital: Finger Lakes Community College Campus Water Quality, Flood Resiliency and Habitat Enhancement Project

Stream monitoring from 50+ storm events over the years has shown elevated phosphorus levels in the 4,000-acre Fallbrook subwatershed. Large sediment plumes from Fallbrook, especially during storms, impact the north end of the lake, underscoring the need for action.

Located in the downstream portion of the Fallbrook subwatershed, the Finger Lakes Community College campus was an ideal location to rebuild Natural Capital across a 20-acre project area. This multi-faceted project reconnects Fallbrook to its floodplain and promotes filtration of nutrient and sediment from storm flows through newly created and enhanced wetlands.

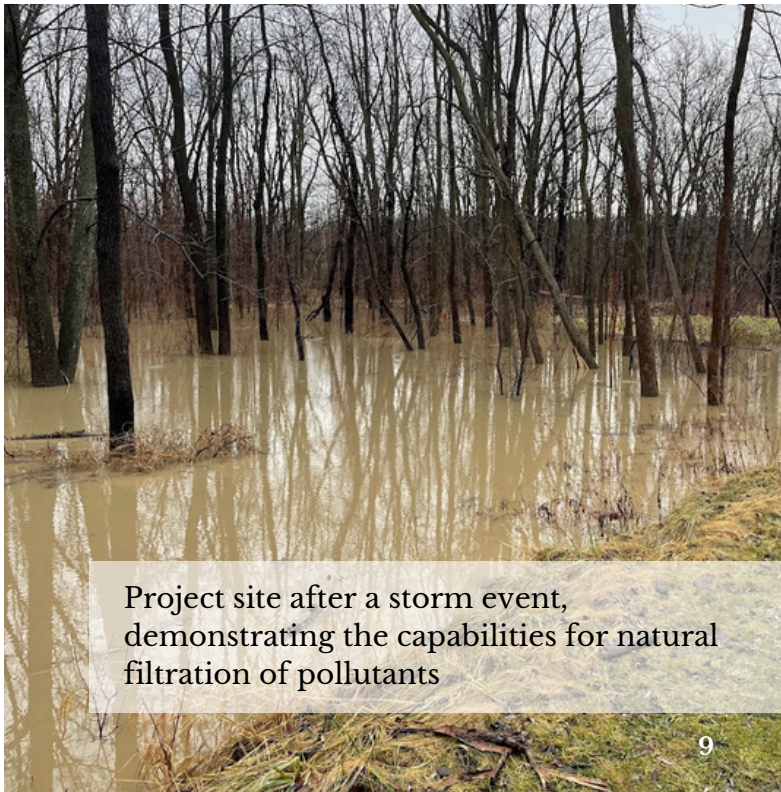
This new wetland system provides significant water quality treatment, storing approximately 3 feet of water during storm events, which represents **20 million gallons of storage per storm event**. Research shows that these enhanced wetland systems can achieve **nutrient removal rates of up to 50%.**

Led by the Canandaigua Lake Watershed Council, this collaborative project received major construction support from the Town of Canandaigua, with additional contributions from Ontario County Planning, the towns of Gorham, Hopewell, Middlesex, and Naples, and the City of Canandaigua. Funding included $260,000 from the NYS DEC Water Quality Improvement Project (WQIP), $20,000 from FLLOWPA, and support from CLWA.

Key construction features of the wetland systems:

- A rock weir designed to maintain baseflow while directing excess flows during storm events into the 20-acre project area.
- Newly created and enhanced wetlands for habitat.
- Controlled outlet structures to release water slowly back into Fallbrook.
- Creation of 3,000 feet of trails to foster community engagement and wetland awareness.

The 20-acre project area on the FLCC Campus now provides an additional 20 million gallons of stormwater storage, keeping pollutants and sediment out of the lake



Project site after a storm event, demonstrating the capabilities for natural filtration of pollutants

A grass waterway, water and sediment control basin, and conversion to a hayfield work together to capture and infiltrate nutrients in the agricultural field before heading to Canandaigua Lake

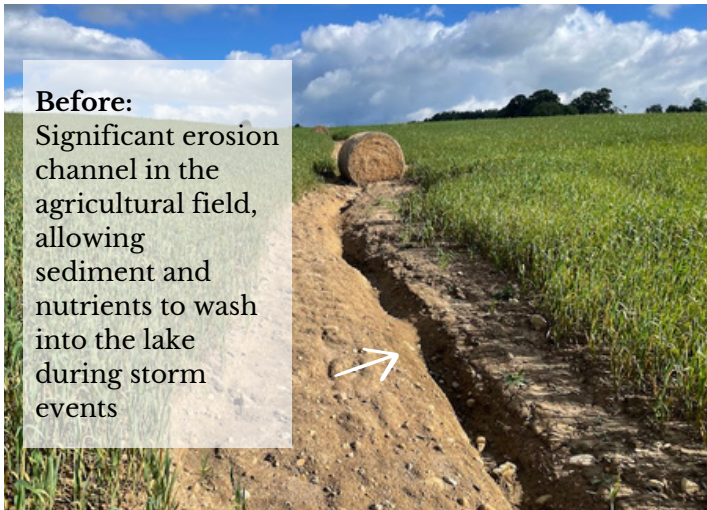
Restoring the Landscape: Grass Waterway and Basin System in the Town of Canandaigua

In 2024, the area around Wells Cutris and Middle Cheshire Road was repeatedly impacted by extreme storm events, resulting in significant flooding and the downstream transport of major loads of sediment, nutrients, and other pollutants into the lake. On two occasions following major storms, the Town of Canandaigua deployed a snowplow to clear debris washed onto the roadway from the adjacent field!

In partnership with two local landowners and a farmer, the Watershed Council and the Town of Canandaigua utilized funding made possible through the Sands Family Foundation to rapidly design and install a 1,300-foot by 50-foot grass waterway and a water and sediment control basin system to help capture nutrients and sediment coming from the agricultural fields. The grass waterway was designed to help stabilize the field, which previously had a massive erosion channel. A creative cost-share program with the farmer facilitated the conversion from row crops to hay, dramatically reducing field-based erosion and runoff rates.

By restoring this one field with this project, we can **reduce erosion rates by over 80% and runoff rates by over 40%.**

Working one field at a time in partnership with the farmer and landowner, these projects are contributing to the larger landscape restoration approach to significantly mitigate flood risks while also providing substantial water quality benefits.



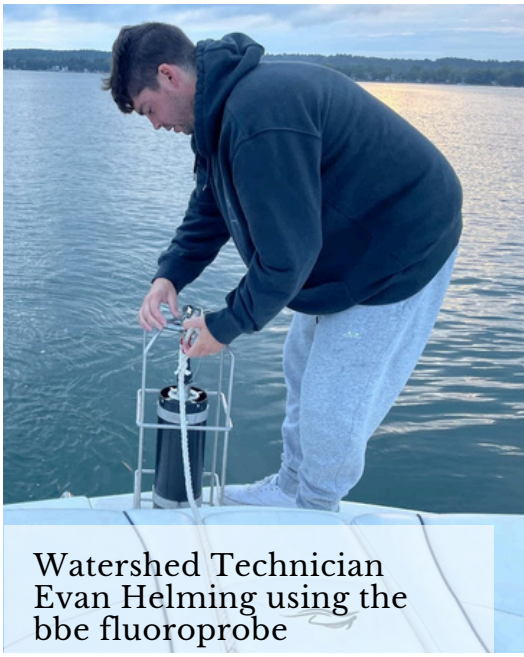
Before: Significant erosion channel in the agricultural field, allowing sediment and nutrients to wash into the lake during storm events

PROGRAMS & PARTNERSHIPS FOR WATERSHED PROTECTIONS

Protecting the Canandaigua Lake Watershed is an ongoing effort—one that requires building on the strength of our well-established network of municipalities, agencies, and organizations all working toward a common goal. While restoration projects remain a cornerstone of watershed protection, lasting success also depends on strong, ongoing programs and partnerships that increase our collective capacity to safeguard the lake.

Research & Monitoring: Understanding the Lake's Changing Dynamics

A comprehensive monitoring program documents the health of the lake and its tributaries and helps to identify sources of pollution. Working with Watershed Council staff, academic institutions, research partners, and citizen volunteers from the Canandaigua Lake Watershed Association (CLWA), we can combine scientific research, data collection, and advanced technology to help identify, assess, and mitigate potential pollution sources, ensuring long-term protection for Canandaigua Lake and its tributaries.



Watershed Technician Evan Helming using the bbe fluoroprobe

- Watershed Council Staff have monitored 17 major tributaries during 55+ storm events, conducted segment analysis on 4 streams, and used computer modeling and extensive field reconnaissance to document pollutant issues. This has helped us identify key sources of nutrient, bacteria, and sediment pollution—guiding targeted restoration and protection efforts across the watershed.
- 29+ year partnership with Finger Lakes Community College on the long-term monthly lake monitoring program.
- $40,000 investment in new monitoring technology, like the bbe fluoroprobe, allowing for real-time insights on daily conditions during harmful algal bloom season.
- Continuous field reconnaissance during storm events to evaluate the performance of restoration projects in real-time conditions.
- Partnerships with CLWA citizen science volunteers have expanded the ability to gather localized information, creating a stronger foundation for science-based decision-making.

Public Engagement and Education

Protecting the lake begins with fostering a strong sense of stewardship with an informed and involved public. The Council supports community involvement through public information sessions in close collaboration with our member municipalities.

- Coordinating flood response and major planning efforts for Sucker Brook flood resiliency projects in partnership with the City and Town of Canandaigua, FEMA, and local residents and businesses affected by the July 9, 2023, flooding—an event declared a national disaster.
- Regular presentations to member municipalities and residents in public information sessions and town meetings on water quality, stormwater management, flood resiliency, land protection, restoration initiatives and local laws.
- Support and funding coordination for the Watercraft Steward Program and boat wash station, protecting the lake from the introduction of invasive species. Partnership with Finger Lakes Institute, CLWA, NYS Parks and DEC.

- Ongoing financial support for CLWA's K-12 Watershed Education Program in our local school districts since its inception in 2007.

Protection Efforts and Local Law Development

Protective policies and local laws are critical tools for long-term watershed protection. The Council has supported the development of forward-thinking local laws, adopted by our local municipalities, such as enhanced stormwater management, steep slope protection, onsite wastewater treatment requirements, and the uniform docks and moorings law. These measures are designed to promote responsible development and land use. The Council also plays an active role in reviewing development proposals across our member municipalities, providing input to strengthen stormwater management and minimize environmental impacts.

Collaboration between local governments, businesses, farmers, community organizations, and residents ensures that diverse perspectives, resources, and expertise come together to address shared challenges.

Equipment that Saves the Lake

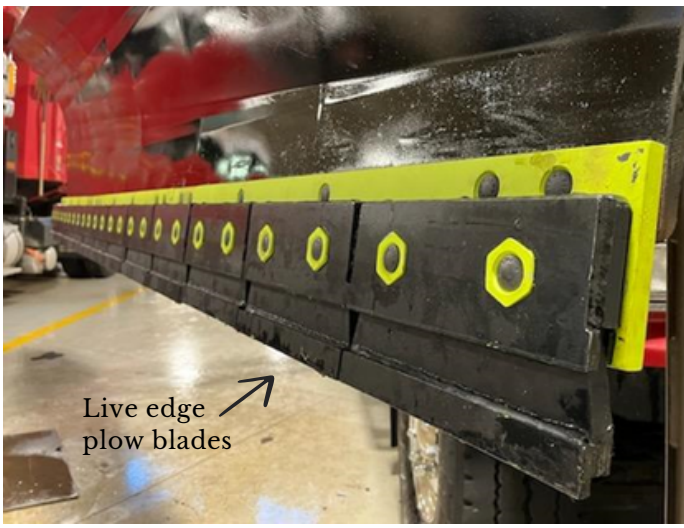
Investing in equipment helps us accelerate watershed projects across our fourteen member municipalities. Rising rental costs and inconsistent availability of borrowed equipment had previously limited our ability to act quickly and efficiently. By securing grant funding and working with our municipalities to purchase equipment, we ensure it's ready for immediate deployment—whether for planned restoration, stabilizing disturbed sites, or responding to emergencies like flooding—advancing our shared commitment to restore resiliency and protect lake health.

- Purchase of a watershed excavator for $140,000, using funding through Ontario County as well as a NYS Grant, has recently enabled the construction of 1.3-acre water quality basin along Middle Cheshire Road, the installation of a 1,300-foot long grass swale, and significant flood resiliency work at Happiness House.

- A hydroseeder was purchased for $93,000 using a combination of state grant funds ($50,000) and support from the Town of Canandaigua. The hydroseeder allows for rapid reseeding following watershed restoration projects, helping to quickly establish vegetation and minimize erosion. It's also used for roadside ditch stabilization.

- The purchase of high-efficiency vacuum street sweepers for the Village of Naples, Town of Canandaigua, and City of Canandaigua—totaling $550,000—was made possible through NYS Water Quality Improvement Program grants. The equipment is now being actively used by the municipalities to remove sediment, de-icing salts, and other particulate matter from roads before it can be carried by runoff to nearby streams.

- By securing $187,000 through a NYS grant, matched by $60,000 local dollars, the Towns of Canandaigua and Gorham and the City of Canandaigua have upgraded equipment to apply road salt more efficiently and effectively. Advanced technology like live edge plows, road temperature sensors, and weather stations help minimize the environmental impact from rising chloride levels in Canandaigua Lake, which have nearly doubled since the 1990s.



LEGACY OF OUR LAKE

Friends of Canandaigua Lake formed in 2025 as a community-based nonprofit that serves as a philanthropic partner for CLWC

LEGACY OF OUR LAKE CAMPAIGN

Launched in 2025, Friends of Canandaigua Lake is a new public-private partnership committed to accelerating the implementation of critical lake-saving projects across our watershed. In coordination with the Canandaigua Lake Watershed Council (CLWC), Friends of Canandaigua Lake is embarking on a $15 million private fundraising campaign.

On the public side, CLWC is working on matching the $15 million by targeting $35 million in funding from federal, state, and local sources over the next six years.

In support of these lake-saving projects – ensuring clean water, a thriving ecosystem and the legacy of our lake that lasts, we are proud to announce the support of a 2:1 match by the Sands Family Foundation. This means every $1 donated from the community has the potential to generate up to $10 in action, amplifying your impact on our lake and watershed.

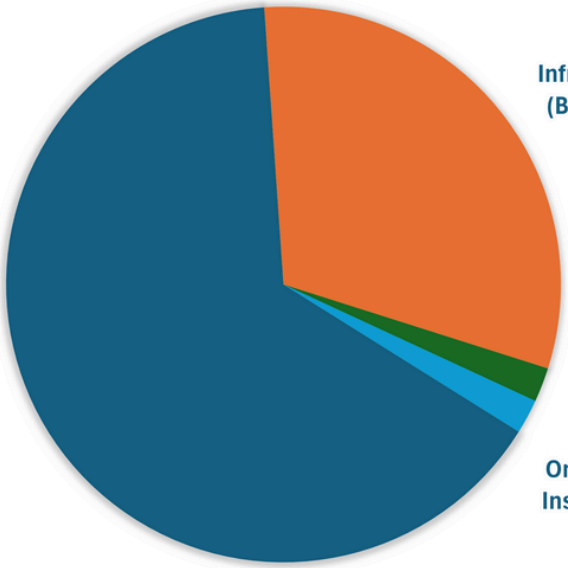
Equally gratifying is that the Wegmans Foundation has stepped forward to donate $1 million to the Friends of Canandaigua Lake, in support of the private fundraising effort.

Join us in making a lasting impact on Canandaigua Lake.

We welcome the opportunity to meet with you to discuss the vision for watershed restoration and to get you involved in protecting the legacy of our lake. To arrange a phone call, Zoom session, or a tour of a restoration site, please call Kevin Olvany, Watershed Program Manager, at (585) 396-3630, or contact Sarah Axelrod, Friends of Canandaigua Lake Development Director at sarah.axelrod@friendsofcdgalake.com.

FUNDING THE FUTURE: A STRATEGY FOR IMPLEMENTING LAKE SAVING PROJECTS ACROSS THE WATERSHED

MAJOR PROJECT IMPLEMENTATION ACTIONS



2025-2030

50M

TOTAL PROJECT COST

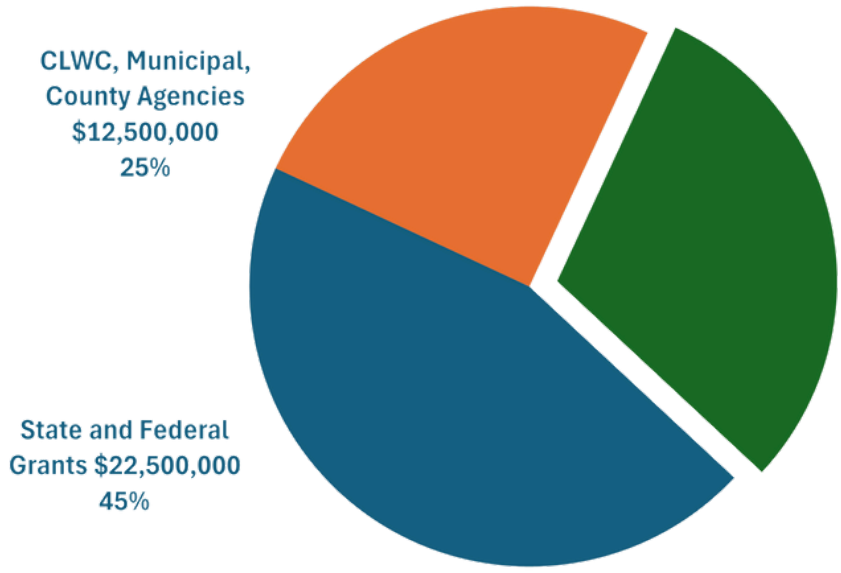
Total phosphorus reduction: **12,375 pounds**

FUNDING BREAKDOWN FOR PROJECT IMPLEMENTATION

50M

LEGACY OF OUR LAKE CAMPAIGN

Funding strategy over a 6-year timeframe



PROTECTING THE LIFEBLOOD OF OUR REGION.

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