



September 2022

Cayuga County 4-H Focuses on Water Quality

By Sara Wagner, 4-H STEM Educator with Cornell Cooperative Extension of Cayuga County

This August 4-H has been engaging youth across Cayuga County learning about the water in our environment. Because of the importance of water to the economy and culture of this area I thought that a program that centered on how water interacts with our environment would be a great inaugural program for me as the new 4-H STEM Educator in Cayuga County. Youth attending the 4-H Youth County Fair were offered an hour of learning and activities every afternoon. Topics included watersheds, water pollution, and erosion caused by water. Youth practiced creating and testing hypotheses, planted native plants in the rain garden in Emerson Park, and tried their hands at remediating polluted water.

Local libraries who were participating in the NYS Summer Reading Program “Oceans of Possibility” also hosted a 4-H program that taught about the water cycle. After learning about the distribution of water on the Earth and how it can move from one reservoir of water to another, they took a journey as a drop of water and then created a map that showed where their water droplet traveled. Through the generous cooperation of the Owasco Watershed Lake Association (OWLA), Booker T. Washington Community Center, and libraries across the county, 4-H has been able to engage more than 70 students with this programming.



Hands-on tools like the EnviroScape Watershed model (left) and a comparison of how different materials absorb water at different levels (right) help teach kids the basics of water pollution prevention

For more information about our 4-H STEM programming or if you are interested in bringing water programming to a student group please contact Sara Wagner – smw352@cornell.edu.

Owasco Lake Watershed Nine Element Plan for Phosphorus Reduction
Michele Wunderlich, Cayuga County Department of Planning and Economic Development

Cayuga County received a New York State Department of State grant to implement a high priority recommendation from the [2016 Owasco Lake Watershed Management and Waterfront Revitalization Plan](#), which was to incorporate the EPA's Nine Key Elements into the Plan. This project was led by the Cayuga County Department of Planning and Economic Development and the consultant on the project was Ecologic, LLC.

The *Owasco Lake Watershed Nine Element Plan for Phosphorus Reduction* was approved by the New York State Department of State and the New York State Department of Environmental Conservation. This Clean Water Plan advances efforts to restore and protect the water quality of Owasco Lake and its watershed. This collaborative effort identified focused strategies to ensure the lake's water supply, aquatic habitat, and recreational uses are protected.

[Owasco Lake Nine Element Plan for Phosphorus Reduction](#) (link)

[Owasco Lake Nine Element Plan for Phosphorus Reduction Appendices](#) (link)

For more information on Clean Water Plans visit [Clean Water Plans on the New York Department of Environmental Conservation's website](#). The Owasco Lake Modeling Report by the Freshwater Institute is also available on this page.

Skaneateles Lake Watershed Nine Element Plan
Aaron McKeon, Central New York Regional Planning and Development Board

A public meeting for the Skaneateles Lake Watershed Nine Element Plan was held at Lourdes Camp on June 15. The 31 meeting attendees got an overview of the Nine Element planning process and were invited to provide input on the plan's vision and goals.

Project Manager Aaron McKeon and EcoLogic's President, Dr. Liz Moran, provided an introduction to the project team, which includes the Ramboll Group and Upstate Freshwater Institute. Dr. Moran also provided meeting attendees with a few examples of 9E plan outputs, drawing on the Owasco Lake 9E.



Attendees of the Skaneateles 9E in-person meeting providing input on the plan's vision and goals

The in-person meeting was followed a week later by a virtual meeting, held via Zoom, that presented the same information. Forty-three people attended this virtual session. This presentation is available online at: <https://skaneateles9e.cnyrpdb.org/get-involved/>

Spotlight: Upcoming Improvements to the Village of Moravia's Wastewater Treatment Plant
By Jillian Aluisio (excerpted from *The Auburn Citizen* online edition)

The Wastewater Treatment Plant (WWTP) in the Village of Moravia is one of two WWTPs in the Owasco Lake watershed, the other being in the Village of Groton. The Moravia WWTP serves over 1,200 area residents and four local Significant Industrial Users. This includes the Cayuga Correctional Facility (at maximum capacity, 1,282 inmates; in actuality, there were 663 inmates in 2021, per a facility audit), as well as three commercial operations.

To be in compliance with its NYSDEC-issued State Pollutant Discharge Elimination System (SPDES) permit, the WWTP treats wastewater to a level which measures below federal and state limitations on nutrient loading. Nutrient loading is defined as a quantity of nutrients entering a water body (here, Owasco Lake or any of its tributaries) over a given period of time. For example, per the SPDES permit, in 2019 the Village's WWTP was permitted to discharge a maximum load of 912 pounds of phosphorus; however, it only discharged 319 pounds—just over one-third of the maximum load. In 2021, with the same maximum load permitted, it performed even better, and discharged 166 pounds of phosphorus, or under one-fifth of the permissible amount.

As the *Owasco Lake Watershed Nine Element Plan for Phosphorus Reduction* reports, the Moravia and Groton WWTPs contribute just 2 percent of the total phosphorus found in the lake. The graph below, presented at the final public meeting for the Nine Element Plan, illustrates the phosphorus loading from both facilities in comparison to their combined permitted loads threshold.

After the Village was awarded a Wastewater Infrastructure Engineering Planning Grant from the NYS Environmental Facilities Corporation in 2019, MRB Group out of Rochester was hired to create a plan for upgrades, new structures, and rehabilitation of existing systems that aligned with NYSDEC

recommendations. Construction is planned to begin in late 2022, and to be complete in about a year, in winter 2023. All told, the project is budgeted at \$7 million, with funding coming from various grants and loans available to the Village. The planned changes, identified in MRB Group’s *Preliminary Engineering Report*, include the following:

New structures or systems:

- A replacement influent building, with new screening and de-gritting equipment, to better remove solids from incoming wastewater.
- A new chemical storage structure and new chemical feed systems.
- A new aerobic digestion system, which will reduce the volume of sludge created.

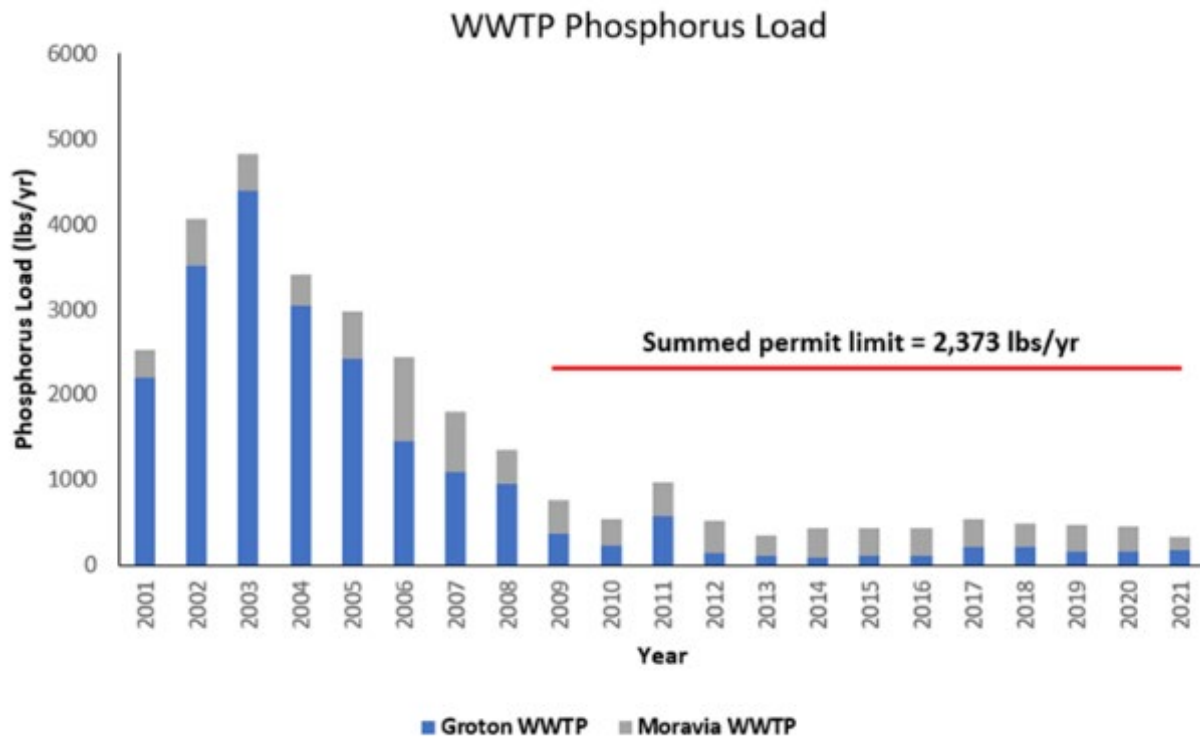
Upgrades:

- Aerations tanks will be expanded.
- Sand filtration systems will be expanded.

Rehabilitation:

- Stabilization of the Owasco Inlet streambank where the treated wastewater is discharged.
- Repair of the effluent outfall on the streambank.
- Replacement of sludge de-watering systems.
- Rehab of the mechanical equipment of the existing aeration tank.
- Rehab of the filtration systems currently in place.
- Rehab of primary and final clarifier systems.

Questions about the planned improvements can be directed to Bill Davis at MRB Group at (585) 329-4754.



A graph illustrating the amount of Total Phosphorus being discharged into Owasco Lake by the two Wastewater Treatment Plants within the watershed, and what discharge reductions they have achieved. Total Phosphorus is a measurement of all forms of phosphorus found in the water, whether it originates in floating particles of plant or animal matter, or is dissolved directly into the water.

The Lake Friendly Living Coalition of the Finger Lakes

By Adam Effler, Executive Director of the Owasco Lake Watershed Management Council

The Lake Friendly Living Coalition of the Finger Lakes hosted the 2nd Annual Lake Friendly Living Awareness Month throughout May 2022, which highlighted watershed resiliency. The education series featured virtual and in-person expert speakers, demonstrations, and hands-on project implementation. In total, ten webinars and seven live events accommodated 371 participants.

With the common mission to protect water quality, this collaborative effort by nine Finger Lakes watershed organizations educated and engaged Finger Lakes residents, local governments, and businesses on how to adopt practices that protect and preserve our lakes for sustainable water quality, recreation, and tourism. This year's keynote speaker for the education series, Fred Stoss of the University at Buffalo, presented on consequences and solutions for the Finger Lakes basin as they relate to climate change. The month's events were free for all participants to attend, and included topics such as climate resiliency, home, garden, and shoreline practices, rain gardens, rain barrel workshops, invasive species threats, citizen science, a tree giveaway, a nursery installation, and more.

The calendar of events and speakers for the May educational series was made available through the Coalition's website: www.flrwa.org/lake-friendly-living.

Finger Lakes residents and businesses are encouraged to show their support for the Lake Friendly Living program by visiting their watershed organization's website and 'taking the pledge.' The Owasco Lake Watershed Management Council's (OLWMC) pledge program offers yard signs to pledge takers, providing an opportunity for Owasco Lake Watershed residents and businesses to demonstrate their commitment to, and advocacy for, Lake Friendly Living. Visit www.olwmc.org to learn more.

Highlights from the May Finger Lakes educational series included:

- 462 shrub willow canes planted to help stabilize soils
- 5 Spotted Lanternfly monitoring stations established
- 14 rain barrels produced and placed
- 28 bird species identified and cataloged
- 50 Red Oak and 50 American Sweetgum trees distributed to landowners to promote the use of native species



Shrub willows provided by SUNY ESF were planted by volunteers and OLWMC staff at the Town of Owasco Nursery. They will be used for the installation of riparian buffers within the Owasco Lake watershed.

Furthermore, the Lake Friendly Living Coalition coordinated resolutions among the NYS Assembly and Senate to provide for a NYS legislative resolution commemorating Lake Friendly Living awareness in the Finger Lakes Region. The Coalition expects that the Lake Friendly Living educational series will be provided annually for years to come, will continue to gain NYS government support, and will drive its overarching goal: to grow regional community awareness of, and engagement with, Finger Lakes watershed protection efforts.

Asian Clam Survey of Owasco Lake

Michele Wunderlich, Cayuga County Department of Planning and Economic Development

Members of the Cayuga County WQMA's Invasive Species Working Group conducted an Asian clam survey on August 9th. Ed Wagner, Adam Effler, Ally Berry, Jillian Aluisio and Michele Wunderlich surveyed Owasco Lake in the Emerson Park area for the Asian clam. There were very few clams this year and there was only one clam found of reproductive size. Stay tuned for a presentation this winter. Special thanks go out to Owasco Marine for providing us the boat for the morning.



The Asian Clam Survey Crew



Ally Berry sorts clams for measurement



Ed Wagner, Adam Effler and Jillian Aluisio survey for Asian clam

Cayuga County WQMA

The Cayuga County WQMA held their September meeting at Goody's Lake Como Inn. A special thanks to Pat Mooney for securing the venue and for giving a tour of Lake Como by boat.



Members of the Cayuga County WQMA enjoy the view of Lake Como



Pat Mooney gives a tour of Lake Como

Cayuga County WQMA

For more information about the Cayuga County Water Quality Management Agency, check out our website at www.cayugacountywater.org. The Cayuga County WQMA is also on social media. For up to date information on water quality issues and events, please either friend us on Facebook at <https://facebook.com/CayugaCoWQMA> or follow us on Twitter at <https://twitter.com/CayugaCoWQMA>.

The Cayuga County WQMA is looking for story ideas for its webpage and its newsletter. If you have something you would like to share, please email us at wqma@cayugacounty.us.



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