

Network News

*It takes a
Network to protect
a watershed.*



A New Steward for the Network!

Hilary Lambert *Steward/Executive Director*

I am excited to announce that the Board of Directors has appointed a new Steward/Executive Director to lead the Cayuga Lake Watershed Network. In early December, Liz Kreitingner joined us on a part-time basis, and will be full-time in early March 2022. The present director, Hilary Lambert, will step down at that time.

The Board and Staff are delighted to welcome Liz, and are deeply grateful to the other candidates who applied.

Liz Kreitingner is a watershed ecologist who studies nitrogen cycling and terrestrial-aquatic linkages related to water quality. Coming from the biogeochemistry community at Cornell University, Liz is completing a PhD in the Department of Natural Resources there.

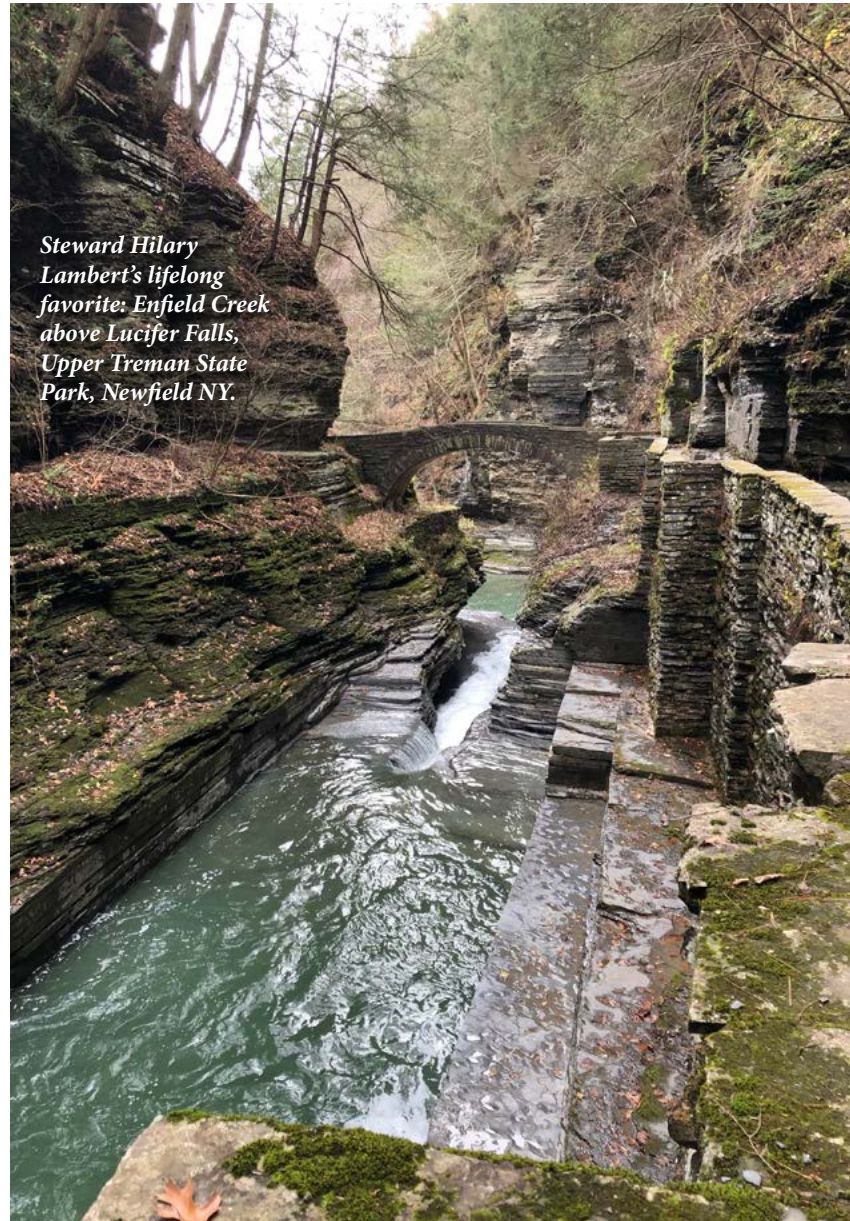
Liz says, "It is such an honor to be stepping into the role of Executive Director for the Cayuga Lake Watershed Network in 2022. I look forward to working with Hilary, Jenn, the Board of Directors, stakeholders, and membership to serve our communities and this watershed we call home. See you in the New Year!"

The past eighteen months have been an eventful period for the Network, challenged first by the COVID pandemic to successfully continue our essential work on behalf of the Cayuga Lake watershed. We also developed and have begun to implement our 2021-23 Strategic Plan, shifting our focus to climate change impacts on the watershed and region.

Our 2020 and 2021 summer and fall work seasons were busy and productive, with creative interns helping us innovate and move forward; Harmful Algal Blooms and hydrilla outreach around the lake; new programs to help residents and visitors to better protect our lake and watershed; and dealing with numerous other watershed health challenges. In all our endeavors we have worked with wonderful community partners. We have expanded our fundraising efforts, and we thank the many of you who have joined us and continue to support us.

On top of these challenges came a search for the right person to lead the Network into this new era. Deep thanks go to the Board and Staff for persevering—with a special thank you to John Abel, our Treasurer, who rose to the

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Steward Hilary Lambert's lifelong favorite: Enfield Creek above Lucifer Falls, Upper Treman State Park, Newfield NY.

2021: A big year for Lake Friendly Living!

Nancy and Ed Currier *Volunteer & Board member*

As the year comes to an end, we thank those CLWN members who have taken the pledge to become Lake Friendly Living Champions and adopt any number of best practices to improve water quality in our lake. If you have not yet done so, please consider joining this free program by visiting our website.

This past year saw the formation of the Lake Friendly living (LFL) coalition of representatives from watershed and lake groups on Canandaigua, Seneca, Cayuga, Owasco, Skaneateles, and Otisco—the heart of the Finger Lakes! That group met via Zoom during the winter and spring to develop and produce the Finger Lakes LFL Awareness Week in early May 2021. Many of you may have participated in the

webinars and activities designed to inform regarding many water quality issues. We encourage you to review those recordings by linking to our YouTube channel (you can find us by searching YouTube for Cayuga Lake Watershed Network).

In December, Maura Toole, co-founder of the Lake Friendly Living Coalition of the Finger Lakes, was honored

by the Finger Lakes Regional Watershed Alliance (FLRWA) for her visionary work during 2020-21. She is the recipient of their 2021 Citizens Award, given to an individual who contributes significantly to the alliance's cause of protecting the water quality of the Finger Lakes.

Several website-based resources have been developed by the Network over the past eighteen months, of great value for becoming more informed about water quality issues. These are tips, tools and insights for watershed residents (and we are all watershed residents) to learn how to better protect our water resources. They include:

- Lakeside Living in a Changing Climate (2020)
- Watershed Living in a Changing Climate (2021)
- Cayuga Lake Homeowners Guide (new 2021 edition)

As we move into the winter months, many of us will begin to think about best practices we could use to improve our properties to prevent runoff and reduce water pollution. In addition to the resources listed above, we have found a comprehensive assessment workbook (pictured above), published by our Canadian neighbors, which can be used to determine certain needs on our properties that might provide focus in making plans for spring and summer projects. This workbook can be accessed on our website or through Watersheds Canada. We also can mail you a copy. Print copies of the 2021 Homeowners Guide are also available.

We invite you to stay in touch with us by sending stories and pictures of your projects! With your permission, they might be featured in a future Network newsletter. Thank you. For more information, go to the Lake Friendly Living page under Resources at our website. 🐾

A New Steward for the Network! *continued from cover*

occasion to lead us through the job notice and hiring intricacies.

The outgoing Steward/Executive Director Hilary Lambert—that's me—thanks you all for joining me in my nearly 13 years in this role, since February of 2009. I think that my main impact has been to find ways for people and institutions to work better together, watershed-wide, to protect the lake at the center of our lives—during a time of accelerating threats and changes. Thank you to our members and partners, our Board, and to Jenn Tufano for your wisdom, support and friendship. And now—new energy, skills, and knowledge are needed for this role. Thank you to Liz Kreitinger for taking this on.

I am stepping down, but not retiring. As of March 6, 2022 I will be available as a consultant, and have a number of other projects and ventures that I hope to enjoy, in the company of distant family members when possible. I will also remain on a couple of CLWN committees, and encourage you all to join us, and to donate in support of the Network. Thank you and Happy New Year! 🐾



Hilary Lambert



Liz Kreitinger



Cayuga Lake Watershed Network
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www.cayugalake.org

It takes a Network to protect a watershed!

January 2022

Dear Cayuga Lake Watershed Network members and supporters,

We are excited about the Cayuga Lake Watershed Network's prospects for effective watershed protection in 2022 and would love for you to join us.

Will you renew or begin your membership with us now?

We launched our new Strategic Plan in January 2021, and have seen progress as we build a stronger, more inclusive organization, focused on how climate change is affecting the Cayuga Lake watershed and wider region.

Check out the **brand new Climate Change local information resources** at our website. Priorities for the coming years were shared in our summer issue by Dr. David Wolfe, Board of Directors Chair and well-known climate change expert who recently retired from Cornell University. Learn about Watershed Living in a Changing Climate, and the Lakeside Living handbook advising landowners how to better protect our waters. **All this information is available at www.cayugalake.org.**

I am stepping down as Executive Director in March 2022. I have enjoyed this wonderful, creative job since 2009, and it's time to hand over leadership to someone new. After working with you all for the past 12 years, I think we have made some real progress in learning to work as a team watershed-wide, protecting the incomparable lake at the center of our lives, our treasured creeks that flow to it, and our communities, human and natural.

We have learned to look beyond the boundaries of private property. We have reached out across town, county, public agency and organization borders, to begin to protect this watershed as it needs to be protected – as a whole. *This warms my geographer heart!*

I am especially excited about the younger generations, who already know that we must protect clean water in a rapidly changing world. Their family upbringing, community involvement, and schooling are preparing them to protect our environment in a tumultuous future. Thanks to our summer interns, CLWN Board members, and community partners, a **CLWN youth program for climate change will be ready soon.**

Please join me in giving back to this great organization, to honor the progress we have achieved together.

Your membership, additional donations, and active involvement strengthen the Cayuga Lake Watershed Network, and help protect the Cayuga Lake watershed.

Please send a check to CLWN at the address above. The full membership form is available on page 7, for your convenience. Seniors \$10, Individuals \$25, Families \$35. Larger amounts welcome!

These and other membership options are also available online at www.cayugalake.org. Click on the "Join/Renew" blue button on the homepage. Recurring donations are an option online!



Thank you,
Hilary Lambert, *Steward/Executive Director*

Septic system inspection law passed

Thank you Seneca County!

Hilary Lambert Steward/Executive Director

Seneca County's Watershed Protection Law takes effect April 1, 2022. This new local law requires periodic inspections of private septic systems on properties within 250 feet of lakes and canals. The law also applies to properties being sold that have septic systems.

The water quality of Cayuga Lake, Seneca Lake, and the Seneca River will benefit from the Watershed Protection Law, championed by Paul Kronenwetter of Seneca Falls and passed by the Seneca County Board of Supervisors last October. According to Scott King, Deputy Director of Public Health for Seneca County, the major goals of the law are:

- to protect the waterbodies, watersheds, and drinking water sources in the county from residential wastewater containing harmful bacteria, viruses, and excess nutrients.
- to help prevent people from unknowingly purchasing properties with a septic system that is failing or that is likely to fail.
- to bring Seneca County in-line with other municipalities in the region and across NYS that have enacted septic system inspection laws or regulations in recent years.

- to standardize a set of minimum requirements for septic inspections within the county so that buyers and sellers alike know what to expect.

The proposed law aims to work towards these goals through a program of routine inspections (on a cycle) for properties that border the major water bodies in the county. Properties that border or are within 250 ft. of the mean high water marks of either Cayuga or Seneca lakes, and properties that border or are within 250 ft. of the normal water's edge of the Seneca River will have to have inspections completed per a schedule to be set in the law (every so many years they would have to have the inspection completed again). Additionally, inspections will be required anytime a property with a septic system is transferred. This property transfer inspection provision applies to the entire county, regardless of property location.

If a system fails inspection, the law indicates that it must be repaired or replaced and that the Seneca County Health Department must approve all proposed systems prior to any work being done. There are some additional provisions regarding inspector certification, registration of septic system contractors, etc.

The Cayuga Lake Watershed Network celebrates this big step forward, as Seneca County joins Cayuga County with effective tools to better protect and restore water quality in creeks and Cayuga Lake. Our eyes turn to Tompkins County, with its big creeks and many miles of southern-end shoreline. We hear that some progress has been made there toward developing and passing a law that would complete the embrace of our lake with improved septic system health. May it happen in 2022. 🐾

Is Bitcoin coming to Cayuga Lake?

News Flash

Hilary Lambert Steward/Executive Director

Last April, a SEC (Securities and Exchange Commission) reported a filing: "Up to 100MW of Bitcoin mining facilities to be located in Lansing NY." The rising likelihood of cryptocurrency coming to the Cayuga Lake shoreline at the Cayuga Power/Heorot site (the old coal-fired power plant in Lansing) points to good reasons for study, protective ordinances, and community involvement. To learn more about potential negative impacts to Cayuga

Lake and area communities, read "Information about Cryptocurrency Regulations and Potential for Bitcoin Mining Development," a report submitted to the Lansing Town Board on December 3, 2021 by LAC-PPE, the Lansing Advisory Committee on the Power Plant Future. The report is available at the Lansing Town Board's website www.lansingtown.com under Current Meeting Docs. 🐾



Harmful Algal Blooms in a Changing Climate

Cyanobacteria are photosynthetic autotrophs. This means that similarly to their descendants, modern plants, their growth requires sunlight, carbon dioxide, and is accelerated by nutrients like phosphorus and nitrogen (Bartram and Chorus, 1999). Just as the growth of trees on the land is climate dependent and seasonal, so too is the growth of cyanobacteria in freshwater lakes and ponds of temperate climates.

A HAB on Cayuga Lake, week of July 19, 2021. Photo submitted to Nate Launer by a HABs Harrier

Nathaniel Launer *Director of Outreach, Cayuga Lake HABs Monitoring Program Coordinator, Community Science Institute*

AS temperatures increase during the summer, freshwater lakes in temperate climates, such as Cayuga Lake, begin a cycle of stratification, separating into a layer of warm water at the surface (the epilimnion) and a layer of cold water below (the hypolimnion). The sunlight and warm water of the epilimnion support an abundance of aquatic life including microscopic phytoplankton and zooplankton. As part of this planktonic community, cyanobacteria flourish in this fertile aquatic environment, outcompeting other phytoplankton for available resources by using gas vesicles to regulate buoyancy, unique types of chlorophyll to capture a wide spectrum of sunlight, and toxins that may deter predation (Huisman et al. 2018).

As such, populations of cyanobacteria naturally tend to increase during the summer months when there is an abundance of sunlight and the water of the epilimnion is at its warmest. Inputs of bioavailable phosphorus and nitrogen flowing into the lake from tributary streams can help ‘fertilize’ cyanobacteria. Sometimes their growth accelerates so rapidly that cyanobacteria populations ‘boom’ into what we refer to as a ‘bloom’.

These seasonal cycles of growth may be changing due to climate change, resulting in observable changes in our lakes and ponds, which potentially includes the increasing occurrence of cyanobacteria blooms (aka Harmful Algal Blooms, or HABs). In a recent study, scientists predict that the warming temperatures

of climate change will cause lake stratification to “begin 22.0 ± 7.0 days earlier and end 11.3 ± 4.7 days later by the end of this century...” and note that “a prolonging of lake stratification has been shown to increase the occurrence and intensity of toxic algal blooms” (Woolway et al., 2021).

Scientific consensus is growing that the increasing occurrences of HABs may be due in part to climate change. In Chapter 3 of the Fourth National Climate Assessment, it states that “The risk of harmful algal blooms could increase due to an expanded seasonal window of warm water temperatures and the potential for episodic increases in nutrient loading” (Lall et al. 2018). Here on Cayuga Lake, we may already be observing hints of this expanding growing season in which cyanobacteria flourish. In 2021, 26 of the 102 total blooms occurred during October, a substantial increase in the number of blooms that occurred during October compared to years prior (see Figure 1).

Four years, of course, is simply not nearly enough data to identify impacts of climate change that gradually develop over decades, and the count of HABs may very likely be influenced by our increasing awareness of bloom occurrences. With continued monitoring however, we can build the long-term datasets necessary to inform our understanding of HABs occurrences on the lake and how patterns of bloom occurrences

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Diving into Watershed Living in a Changing Climate

Read & download at our website

During the summer of 2021, intern Maeve Day worked with Board member John Abel to broaden our 2020 handbook from 'Lakeside Living' to Watershed Living in a Changing Climate. Look for it under the Climate Change heading at our website.

The *Watershed Living* handbook provides detailed, watershed-wide tools to use during these tumultuous climate changing times. Forms your actions can take:

Reduce carbon emissions at home: Home energy efficiency, Decarbonizing home energy, Emissions from landscaping and lawn care, Personal Vehicle Emissions.

Mitigate climate change effects at home: Water for domestic use, Conserving water at home, Septic systems and wastewater treatment, Lawn care impacts, Stormwater runoff, Terrestrial Invasives at home.

Take climate-friendly actions as an engaged resident in the watershed: Aquatic Invasives and Harmful Algal

Blooms, Home sustainability practices, Citizen science and community engagement, Lake and stream accessibility: Cayuga County stream and lake access, Cortland and Schuyler Counties stream and lake access, Seneca County stream and lake access, Tompkins County stream and lake access, Specialty Activities and Rentals.

The Network's 2020 instant classic by Abbey Yatsko and John Abel, *Lakeside Living in a Changing Climate*, remains available under the Resources heading at our website, along with the Lake Friendly Living program, and Smart Steps for Clean Water. You can quickly start making a difference for the better! Thank you. 🐾

The Network's New Lakewear!

The Network has new hats and shirts available for purchase!

All proceeds benefit the Network, and a portion of our earnings will be used to purchase future gear. Hats and shirts feature "AIS" (Aquatic Invasive Species), and logos from CLWN and our partners at the Finger Lakes Institute and Finger Lakes PRISM (Partnership for Regional Invasive Species Management) in Geneva.

We encourage anyone working with, volunteering to protect, or simply enjoying our lake and creeks, to purchase and proudly wear these items. They also make great gifts!

Hat or Shirt: \$25/each
Two of any combination
(two hats, or two shirts, or hat/shirt): \$40 total

Shirts are unisex, sized from adult Small to XXL.

Caps are adjustable, for adult head sizes.

There's one color selection for caps and shirts—blue shirts, and cream caps with matching blue piping.

How to order

Please contact us at programs@cayugalake.org to place an order.

- Provide your name, mailing address, and number of items to be ordered, including shirt sizes.
- To calculate shipping costs, please provide your mailing address, so that we can calculate cost of shipping to your location, based on the number of items you order. We'll add that to the cost of the items, and provide you with a total amount for payment.
- Items will be shipped upon cleared payment. 🐾

They also make great gifts!



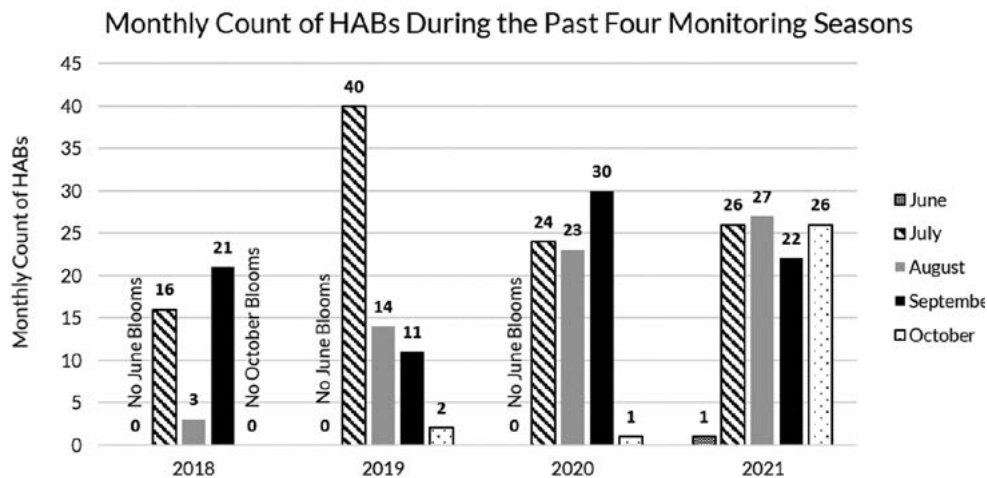


Figure 1. The monthly count of HABs during each of the past four monitoring seasons. In 2021, 26 HABs occurred during October, a substantial increase from years prior when two HABs at most occurred in October on Cayuga Lake. If repeated in future years, such observations may indicate that the bloom season may be slowly lengthening on Cayuga Lake. Data collected through the Cayuga Lake HABs Monitoring Program and available at www.communityscience.org.

may be changing over time. This understanding may help guide strategies—such as targeted reductions in nutrient inputs—to manage and protect water quality which, hopefully, may lessen the occurrences of these blooms.

Continuing to monitor HABs will be an essential part of the effort to protect Cayuga Lake in a changing climate. We look forward to our continued partnership with the Cayuga Lake Watershed Network and the dedicated HABs Harrier volunteers participating in our Cayuga Lake HABs Monitoring Program. Together, we can address the issue of HABs and help protect Cayuga Lake—now, and in the future. 🐦

References

- Bartram, J., & Chorus, I. (1999). Toxic cyanobacteria in water (1st ed.). F & FN Spon Press. Retrieved December 8, 2021, from <https://www.who.int/publications>.
- Huisman, J., Codd, G.A., Paerl, H.W. et al. Cyanobacterial blooms. Nat Rev Microbiol 16, 471–483 (2018). <https://doi.org/10.1038/s41579-018-0040-1>
- Woolway, R. I., Sharma, S., Weyhenmeyer, G. A., Debolskiy, A., Golub, M., Mercado-Bettin, D., Perroud, M., Stepanenko, V., Tan, Z., Grant, L., Ladwig, R., Mesman, J., Moore, T. N., Shatwell, T., Vanderkelen, I., Austin, J. A., DeGasper, C. L., Dokulil, M., La Fuente, S., Jennings, E. (2021). Phenological shifts in Lake stratification under climate change. Nature Communications, 12(1). <https://doi.org/10.1038/s41467-021-22657-4>
- Lall, U., T. Johnson, P. Colohan, A. Aghakouchak, C. Brown, G. McCabe, R. Pulwarty, and A. Sankarasubramanian, 2018: Water. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 145–173. doi: 10.7930/NCA4.2018.CH3. <https://nca2018.globalchange.gov/chapter/3/>.

Become a Member of the Cayuga Lake Watershed Network!

PLEASE JOIN CLWN, your lake's watershed protection organization. Your membership strengthens our ability to protect the lake at the center of our lives. **ENCOURAGE FRIENDS, FAMILY, GROUPS AND BUSINESSES TO JOIN.** You can use the form below to join or renew. Mail completed form with check to CLWN, PO Box 348, Aurora NY 13026. *Thank you.*

Name _____

Address _____ City _____ State _____ Zip _____

Email _____ May we add you to our listserv? ☐ Yes ☐ No

We have membership levels to suit everyone's needs. Please check one of the levels below.

- | | | | |
|---|--|--|--|
| <input type="radio"/> \$10 Student/Senior | <input type="radio"/> \$35 Family | <input type="radio"/> \$50 Business/Farm | <input type="radio"/> \$250 Lake Sponsor |
| <input type="radio"/> \$25 Individual | <input type="radio"/> \$50 Organization/Agency | <input type="radio"/> \$100 Headwaters Donor | <input type="radio"/> \$500 Watershed Benefactor |

We are growing and expanding our effective programs.

Would you like to make an extra donation to support this work?

\$_____ Unrestricted – for general operations.

\$_____ To support water quality tests on Canoga, Burroughs, Yawger and Milliken Creeks.

\$_____ To expand our springtime Embrace the Lake creek, lakefront & ditches cleanups.

TOTAL ENCLOSED: \$_____ Check # _____ (payable to Cayuga Lake Watershed Network please)

Payment can also be made via Paypal/credit card at our website www.cayugalake.org

Your Contributions to the Cayuga Lake Watershed Network are Tax Deductible.



Would you like
☐ 1 or ☐ 2
 full-color CLWN logo
 window stickies (4 x 6")

If you are interested in learning about donating stocks to CLWN, please contact Jenn at programs@cayugalake.org.

The mission...

The Cayuga Lake Watershed Network identifies key threats to Cayuga Lake and its watershed, and it advocates for solutions that support a healthy environment and vibrant, sustainable communities.



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- Educate
- Advocate
- Protect

Upcoming Events

in the Cayuga Lake Watershed

Check our website, listserv and Facebook page for announcements about events, and contact steward@cayugalake.org or programs@cayugalake.org for the latest information.

JANUARY 13, 2022: Bitcoin, Cryptocurrency, Blockchain: The Promise and the Peril. Presented by LWV of Tompkins County and LWV of Cortland County. Join us online Thursday, January 13, 2022 at 7p.m.

Speaker: Irene Weiser, Coordinator of Fossil Free Tompkins.

Come learn the basics of cryptocurrencies and blockchain technologies, how the energy appetite of some forms threaten to derail achievement of NYS climate goals, and possible directions forward.

Co-Sponsored by: Campaign for Renewable Energy, Fossil Free Tompkins, People for a Healthy Environment, and Sustainable Tompkins.

To attend: <https://lwvtompkins.org/natural-resources/>

Facebook Event Link: <https://fb.me/e/262mOpuzu>

WINTERTIME is the right time to catch up with the recorded Zoom presentations produced by the Network's staff during the fall of 2021.

Go to the clickable list of presentations on our website home page, grab a cup of tea, and settle back to watch:
December 16: "The Lake Levels Situation on Cayuga Lake." Presenters Bill Kappel, USGS; David Wolfe, CLWN.

November 18: "End of 2021 Season Reports about Hydrilla on Cayuga Lake." Presenters Mike Greer, USACE; Kate Monacelli, FLI/FL PRISM; Sam Beck-Andersen, FLI/FL PRISM.

October 27: Two presentations about top watershed water quality issues.

Presenters Nathaniel Launer, CSI, "The 2021 HABS season on Cayuga Lake;" and Rebecca Schneider, Cornell University, "Ditches, Drainage, Runoff and Water Quality."

Numerous other 2020-21 Cayuga Lake and Finger Lakes presentations are stockpiled for viewing at this channel. Relax with "Sky, Water, Land—Cayuga Lake, a Celebration," and "Winter on Six Mile Creek," by Frank Muller. ➤