



Community Science  
**Institute**

Partnering with Communities to Protect Water

## Annual Report 2023

Volunteers in CSI's Cayuga Lake Harmful Algal Bloom Monitoring Program monitor the shoreline of Cayuga Lake weekly from July - September.

Photo taken by Charlene Mottler.



## Cayuga Lake Harmful Algal Bloom Monitoring

The Cayuga Lake Harmful Algal Bloom (HAB) Monitoring Program is led by CSI in collaboration with the Cayuga Lake Watershed Network and Discover Cayuga Lake. In this program, volunteers (who we call “HABs Harriers”) survey segments of Cayuga Lake’s shoreline weekly throughout the summer. They bring samples of HABs to CSI’s laboratory for microscopic and chemical analysis. This program is funded by Cayuga, Seneca, and Tompkins Counties. Membership donations also contribute to our HABs funding.

### In 2023 HABs News:

- ◆ Thanks to funding from the Tompkins County Health Department, we released our HABs Database. You can now access all 6 years of CSI data on HABs trends at: [database.communityscience.org/hab](https://database.communityscience.org/hab)
- ◆ We added a new transportation system to our HABs program. Now, “Water Carriers” transport blooms from the north end of Cayuga Lake, taking the burden of transport off the shoulders of HABs Harriers.



Above, HABs Harrier Ken Riemer at the “HABs Shack” drop-off point he hosts on the west shore of Cayuga Lake.



### In 2023 Synoptic News:

- ◆ We added a new synoptic monitoring team in Cayuga Heights, pictured above. These volunteers collect water samples from Renwick Brook, Pleasant Grove Brook, and an unnamed stream in Cayuga Heights to monitor salinity in these urban streams. You can see the data from the samples they collect at:

<http://www.database.communityscience.org/monitoringsets/10>

## Synoptic Stream and Lake Monitoring

Synoptic volunteer teams collect water samples to be tested at CSI’s certified laboratory several times a year on their assigned stream or portion of the lake. Thanks to funding from local governments, Cornell University, the Community Foundation of Tompkins County, and membership donations, water samples are tested for nutrients, sediments, salts, potentially pathogenic bacteria, and other water quality indicators like pH, conductivity, and turbidity. Results are then posted on our public water quality database.



## Biological Monitoring

Biological Monitoring volunteers collect benthic macroinvertebrates (BMI), or stream-dwelling organisms, from rocky-bottomed streams between the spring and fall. In the winter, volunteers join CSI staff to sort and identify the benthic macroinvertebrates. The biodiversity and types of organisms present teach us about the ecological impacts of water quality and provide an excellent overall assessment of water quality.

### In 2023 BMI News:

- ◆ Thanks to support from the Town of Fayette, we held our first biological monitoring event on Canoga Creek, expanding our volunteering opportunities geographically.



Above, visiting biologists from Malaysia work together with CSI biomonitoring volunteers to record stream conditions on Fall Creek at Lake St. as they collect this year's BMI sample.

20  
Biomonitoring  
Events were  
held in 2023

To the right, the "titration" step of the dissolved oxygen test. Titration continues until the blue liquid becomes transparent!



37 Red Flag  
Monitoring  
Events were held  
in 2023

## Red Flag Monitoring

The Red Flag Program currently has 6 teams. These teams are spread as far south as Caton and Catatonk Creeks (near Corning and Owego, NY) and as far north as the Oswego River (near Syracuse, NY). Red Flag volunteers conduct water quality tests streamside with portable kits. They test for temperature, pH, conductivity, total hardness, and dissolved oxygen (pictured on the left), all of which are useful water quality indicators for understanding water quality broadly.

## CSI's First Annual Volunteer Awards were Granted in 2023!



Elaine Quaroni - the 2023  
New Volunteer of the Year

### The 2023 Community Science Institute New Volunteer of the Year Award

This award celebrates a new volunteer who jumped headfirst into her role at Community Science Institute. Elaine volunteers for the Cayuga Heights team, where she naturally took charge of planning and logistics. She is a self-starter; someone who hit the ground running and has made an outsized impact in the program in which she volunteers, despite having joined the organization a relatively short time ago. We recognize Elaine for her hard work and enthusiasm. We look forward to seeing how she will continue to grow as a CSI volunteer!

### The 2023 Dr. Stephen Penningroth Volunteer of the Year Award

Following the ethos of Dr. Stephen Penningroth, CSI's founder, Dan Karig exhibits determination and dedication in his commitment to supporting water quality in the Finger Lakes Region. He volunteers for the Six Mile Creek team through biomonitoring and synoptic stream monitoring. Dan expresses his optimism for the future of this beautiful landscape through persistently educating his community about data-driven science, speaking out against unsustainable practices, and galvanizing his neighbors to join in the grassroots environmental movement.



Daniel Karig - the 2023  
Dr. Stephen Penningroth  
Volunteer of the Year

## Public Events Held in 2023:

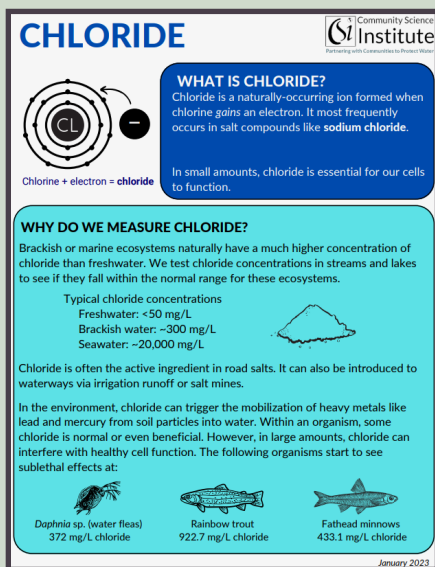
- ◆ CSI held our first Water Quality Data Jam, where over 30 attendees used CSI's public water quality database to answer their own questions about water quality.
- ◆ We took steps to improve the accessibility and inclusivity of our annual 4-H2O kids' programming series, "The Journey of Water," by collaborating with Dr. Aubryn Sidle's nonprofit evaluation course at Cornell University. We expanded 4-H2O's geographic reach by holding an event in Seneca County. We also increased the number of events, leading to **double the Journey of Water attendance in 2023** compared to 2022! This series of events is funded by the Park Foundation and held in partnership with Tompkins County 4-H.
- ◆ We hosted our Annual Volunteer Dinner at Camp Comstock, where we held our first silent auction with items donated by numerous local businesses.



Attendees at CSI's "Stream Biomonitoring Fun!" event, held on July 11, 2023, looking at the benthic macroinvertebrates they collected from Six Mile Creek.

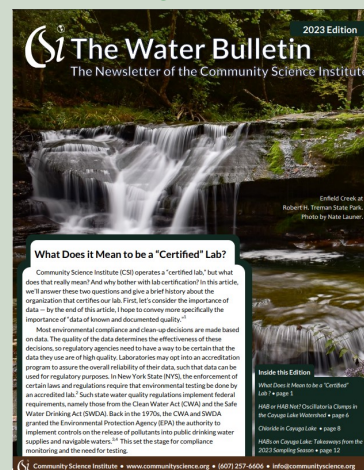
To sign up for our summer kids' programming, or for more information, find us online at:  
[communityscience.org/4h2o](http://communityscience.org/4h2o)

## Online Outreach News from 2023:



The front of our Chloride Fact Sheet, created in January of 2023. Each fact sheet contains a "What," a "Why," and a "How" section describing the water quality indicator.

- ◆ CSI released over a dozen fact sheets about water quality indicators to help improve understanding of our water quality monitoring results. These fact sheets have received overwhelmingly positive feedback from the community. These and other educational resources can be accessed on the Learning Materials page of our website:  
[www.communityscience.org/outreach-and-education/learning-materials/](http://www.communityscience.org/outreach-and-education/learning-materials/)
- ◆ Our 2023 Water Bulletin Newsletter highlighted the challenges and opportunities of operating a state-certified water quality testing lab, with additional articles on chloride data in Cayuga Lake, clumps of *Oscillatoria*, a genus of cyanobacteria, found on Cayuga Lake, and the trends from the 2023 HABs monitoring season.



- ◆ We released 3 database tutorial videos on our YouTube channel to provide step-by-step guidance for using CSI's public water quality databases.



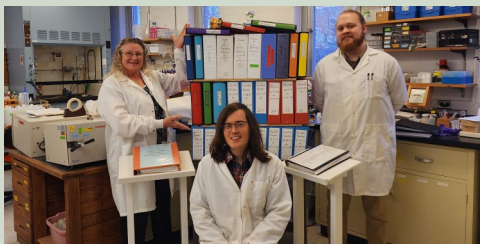


## Fee-for-Service Testing

In 2023, CSI's fee-for-service lab tested:

>2,500 drinking water samples

>140 swimming area samples



CSI's laboratory staff with the many binders they filled with water testing paperwork and results from 2023.

CSI plays a vital role in the community by providing testing services for drinking water from privately owned wells and for public or private swimming areas. In addition to these fee-for-service testing services, we provide education and resources to the public regarding known health and safety concerns related to contaminants that may potentially enter drinking sources or swimming areas.

We are privileged to provide services to a diverse clientele including but not limited to local health departments, state parks, municipalities, universities, public water treatment facilities, and local business owners of farms, restaurants, bakeries, mobile home parks, and apartment buildings.



Charlene, CSI's Office Administrator and Laboratory Analyst, hard at work maintaining organized front desk files, reports, and invoices.



## Letter from the Director

Dear Friends,

*Reading through this year's Annual Report, I am filled with pride by what we have accomplished together in 2023. None of this work would have been possible without the outstanding community of volunteers that we have here at Community Science Institute (CSI). By partnering with over 250 local volunteers across our four monitoring programs, we were able to monitor over 50 different streams and lakes in the Finger Lakes region resulting in over 5,000 water quality data points collected in just 2023. These data are a part of a long legacy of data collection started by CSI volunteers back in 2002. Over 20 years later, many of those same volunteers continue to wade into their local streams with a sample bottle in hand. Their commitment to this work reflects the importance of collecting water quality data in the name of water resource protection. CSI volunteers are unlike any group of people that I have ever worked with. I am inspired by the way that they leverage their regional knowledge and respective expertise to improve local scientific data collection and empower themselves and their fellow volunteers to protect water quality using these data. Above all, I am touched by the deep compassion that CSI volunteers demonstrate for their neighbors and future generations through this work. Protecting our unique and life-giving freshwater resources in the Finger Lakes region is one of the most selfless acts that we can do for each other. I am incredibly grateful for the impactful work that each of our volunteers is carrying out.*

*In addition to the accomplishments already mentioned in this report, there has been important work going on behind the scenes at CSI in 2023. In the fall, CSI's staff and board completed an organizational capacity assessment and program mapping process to lay the groundwork for CSI's first strategic plan. This initiative, led by Heidi Holtz of Stillwork Consulting and Patty Weisse, allows us to get an honest picture of CSI's strengths and weaknesses, set goals for the coming years, and identify ways that we can better serve our community. CSI's strategic plan will be a flexible pathway for increasing our local impact and becoming a more sustainable organization so that we may continue to serve our local watersheds for years to come. The plan is expected to be wrapped up in the summer of 2024. I cannot wait to share what we have learned from the process with all of you and put our plan into action. Our strategic planning process is generously funded by a gift from the Community Foundation of Tompkins County directed by the estate of Dr. Tapan Mitra as well as the Emerson Foundation. A big thank you to these two foundations for investing in CSI's future. There are so many good things to look forward to in the coming years.*

Warmly,

Grascen Shidemantle, Ph.D.  
Executive Director

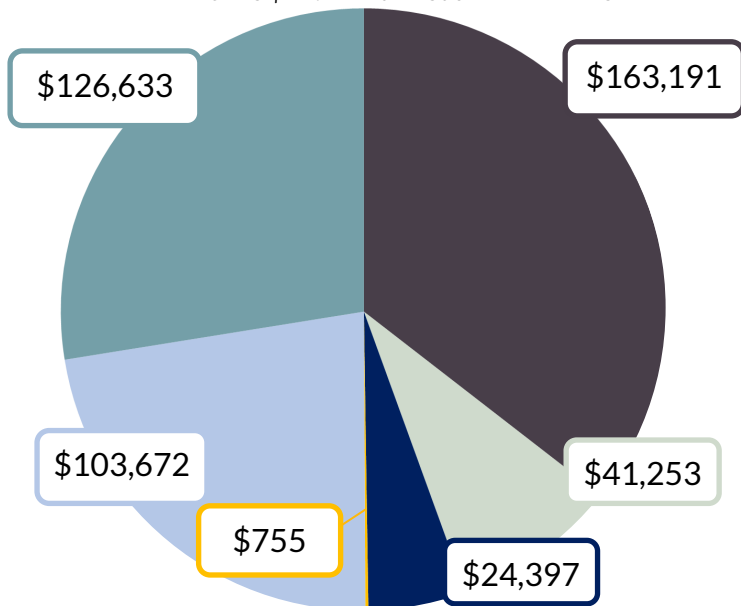


# Financial Report



## CSI 2023 Income Total: \$459,948.36

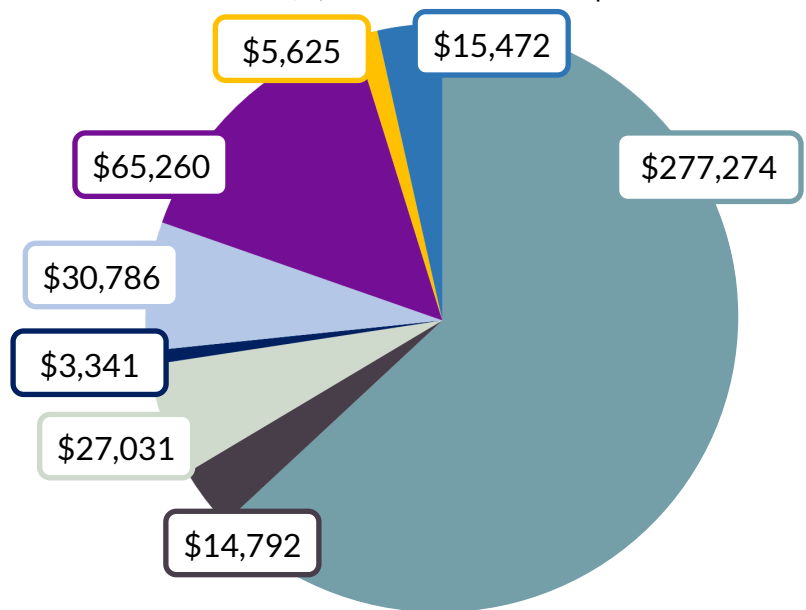
Includes \$49.49 interest and dividends



- Local Government Support for Stream and Lake Monitoring\*
- Grants from Foundations & Not-for-Profits (NFPs)†
- Donations
- Agency and Lake Association Testing Contracts
- Fee-for-Service Drinking Water Tests
- Silent Auction

## CSI 2023 Expenses Total: \$440,780.13

Includes \$1,200.10 travel and transportation



- Personnel
- Web Services
- Sub-Contract Lab Tests
- Contract Labor
- Lab and Office Supplies
- Fees and Miscellaneous Expenses
- Indirect Costs
- Strategic Planning

## Thank You to Our Members!

John Abel  
Judith Abrams  
Paul Allderige  
Victoria Armstrong  
Ellen Baker Wikstrom  
Robert\* and Shirley Barton  
Frederick Bassette  
Grace Bates  
Diana Beckenhaupt  
Harriet and Frank Becker  
David and Cynthia Bouldin  
Linda Brisson  
Taylor Buhler  
Trudy and Ron Buxenbaum  
Linda and Cory Byard  
Stephen and Sherie Carroll  
Sean Carter  
Tom and Amy Casella  
Cayuga Lake Watershed Network  
James Chamberlain and Karen Dyson  
Barbara Chase  
Diane Chu  
City Club of Ithaca  
Anne Clark

Daniel Clement  
David Cleveland  
Marnie Cryer  
Edward and Nancy Currier  
Amber Davidson  
H. Bradley Davidson  
Sheila Dean\*  
Tony Del Plato  
John Dennis  
Barbara DeWall  
Lloyd Dropkin  
William Ebert  
Marie Eckhardt  
Hollie Ellison\*  
Nancy Emerson  
Eric Evans  
Candace Filios  
Martha Fischer and Susan Robinson  
Lucy Gagliardo  
Glenn and Cassandra Galbreath  
Helen Gibson and Barbara Warland  
Phillip C. Gioia  
James Gossett  
Mike Gow  
James (Peter) Gregoire

Carol Hardy  
Ellen Harrison  
Sara Hess and Jeff Furman  
Angel Hinickle\*  
Deborah Jones\*  
Ann Kaminski  
Daniel Karig and Joane Molenock  
Samantha Kelly  
Darby Kiley\*  
Steven King  
Alice King  
Phil and Kathy Koons  
Elizabeth Kreitingner and Wade Simmons  
Hilary Lambert  
Lynette and Corbette Lamphere  
Miriam Larson-Koester  
Lynn Leopold  
Bruce Lewenstein and Claudia Voss  
Roxanne Marino  
Lei and Kevin Mark  
Philip McPheron  
Shelley and Si Meyer  
Harry Miller  
Leslie and Eva Monostory  
Louis Munch and Susanne Maloy



Ezra and Mary Ellen Oyer  
 F. Taylor Peck  
 Dylan Penningroth  
 Stephen Penningroth\*  
 Jody Price  
 Edwin and Roberta Przybylowicz  
 Elaine and Andrea Quaroni  
 Kenneth and Martha Riemer  
 John Rueckheim  
 Donald Sargent  
 Grascen Shidemantle  
 Dale Strok  
 Conrad Strozik  
 Gregory Subtelny  
 Arthur C. Tauck and M. Frances Littin  
 Taughannock Garden Club  
 Regi Teasley and Judith Saul  
 Robert\* and Elizabeth Thomas  
 Joanne Torma  
 Curtis and Amanda Ufford  
 Ron Van Ormer  
 Gerald\* and Nancy Van Orden  
 David Weinstein and Christina Stark  
 Robert Weiss and Sylvia Lee  
 Roberta Weissenberg  
 West Shore Neighborhood Association  
 Aubrey Wiesner  
 Alicia Wittink  
 R. Timothy Wolcott  
 David Wolfe  
 Andrew Yale  
 Stephen and Amy Yale-Loehr  
 Aleah Young  
 Nancy Zahler

\*CSI Board Members

#### Percentage of donors at each membership level:

Creek (\$25) — 13%	Lake (\$250) — 8%
Stream (\$50) — 25%	Estuary (\$500) — 8%
River (\$100) — 37%	Watershed (\$1,000) — 9%

#### Local Government Support for Stream and Lake Monitoring °

Tompkins County - \$42,095	Town of Newfield - \$6,532
Cayuga County - \$39,594	Seneca County - \$5,300
Town of Ithaca - \$22,844	Town of Danby - \$4,376
Town of Dryden - \$11,420	Town of Caroline - \$3,432
City of Ithaca - \$10,790	Town of Enfield - \$2,601
Town of Lansing - \$7,140	Town of Scipio - \$500
Town of Ulysses - \$6,567	

#### Grants from Foundations and NFPs ‡

Community Foundation of Tompkins County Funds

*Tompkins Today and Tomorrow Fund - \$11,600*

*Regenerative Activities and Projects Fund - \$500*

*Taylor Peck Fund - \$555*

*Sue and Steve Ruoff Fund - \$500*

*Rotary Club of Ithaca Fund - \$1,000*

Park Foundation - \$11,000

Cornell University - \$7,000

Cayuga Foundation - \$3,000

Fidelity Charitable Funds

*McCarthy Gift Fund - \$1,000*

*Langkammerer Hartmanis Fund - \$1,000*

*Gary Samuel's Sharing Fund - \$500*

*Gorvault Family Fund - \$100*

Legacy Foundation of Tompkins County - \$2,862.50

Ithaca College - \$350

TW Fund of the Central New York Community Foundation - \$150

Friends of Salt Point - \$90

Ulysses Philomathic Library - \$45

*We give our sincere thanks to our dedicated volunteers. Their work to monitor the health of our shared water resources is an investment that will help guide the sustainable management and protection of our streams and lakes for decades.*

**In 2023, a special gift was made in memory of M. Louise Cannon by Martin Murtagh.**

#### Staff

Seth Bingham, *Water Quality Scientist*  
 Grace Haynes, *Outreach and Programs Coordinator,*  
*Cayuga Lake HABs Monitoring Program Coordinator*  
 Adrianna Hirtler, *Biomonitoring Coordinator*  
 Noah Mark, *Technical Director*  
 Charlene Mottler, *Office Administrator & Laboratory Analyst*  
 Grascen Shidemantle, *Executive Director*

#### Supporting Services

Abner Figueroa, *Web and Database Developer*  
 William George, *Data Entry Specialist*

#### Board of Directors

Robert Barton, *President*  
 Angel Hinickle, *Vice-President*  
 Darby Kiley, *Secretary*  
 Stephen Penningroth, *Treasurer*  
 Gerald Van Orden  
 Deborah Jones  
 Sheila Dean  
 Robert Thomas  
 Hollie Ellison

#### Partners

Cayuga Lake Watershed Network

Discover Cayuga Lake  
 Cayuga Lake Watershed Intermunicipal  
 Organization  
 Tompkins County 4-H  
 Tompkins County Soil and Water  
 Conservation District  
 Sciencenter  
 New York State Parks  
 West Shore Neighborhood Association  
 Cayuga Lake Environmental Action Now  
 Seneca Lake Pure Waters Association  
 Keuka Lake Association  
 Canandaigua Lake Watershed Association  
 Seneca Falls Library





Partnering with Communities to Protect Water

## Annual Report - 2023

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Ithaca, NY 14850

Phone/ Fax: (607) 257-6606

Email: [info@communityscience.org](mailto:info@communityscience.org)

Website: [www.communityscience.org](http://www.communityscience.org)

Certified Water Quality Testing Lab  
NYSDOH-ELAP #11790

Send To:



### Our Mission

Our mission is to empower communities to protect water quality through volunteer stream and lake monitoring. Support our mission by becoming a 2024 CSI Member! You can donate on our website at [communityscience.org/donate](http://communityscience.org/donate) or by mailing a check to us at the address listed above.

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