



Community Science
Institute

Partnering with Communities to Protect Water

Annual Report 2024

A bird's-eye view from the north end of Cayuga Lake looking south, showing the Seneca River outlet at Mud Lock/CS-1 (left of center). The forested area to the right of the river is part of the Montezuma Wetlands Complex including state and federal lands.

Photo provided by Bill Hecht.



CSI From the Desk of CSI's Executive Director

Dear Friends,

At Community Science Institute (CSI), we believe that sound science is the bedrock of effective environmental stewardship. Our commitment to scientific integrity is more vital than ever as we strive to provide reliable and unbiased data to protect water quality in the Finger Lakes and surrounding region. Our work is not simply about collecting and analyzing water samples; it's about fostering scientific literacy, empowering our community to use science to make a difference, and building long-term datasets that facilitate fact-based decisions about water quality management.

I am filled with a profound sense of awe for all that we have been able to accomplish together as a scientific community in 2024. Namely:



- Our network of dedicated community scientist volunteers across CSI's four monitoring programs braved the elements to collect water samples that culminated in over 5,000 data points that are now included on our public water quality database.
- We inspired the next generation of water stewards through our Journey of Water summer series by connecting 149 kids and their families directly with Cayuga Lake, its tributaries, and wetlands while also imparting lessons about the science of water quality monitoring and water treatment.
- As the only public certified water testing lab in Tompkins County, we provided over 650 distinct clients with the test results that they need to keep their businesses open or to know whether the water in their homes is safe to drink.

This impactful work would not be possible without CSI's incredible community of volunteers, staff, partners, clients, and supporters. Thanks to their contributions, CSI is able to carry on and expand our efforts to protect water quality through scientific inquiry and education.

With gratitude,

A handwritten signature in blue ink, appearing to read "Grascen Shidemantle".

Grascen Shidemantle, PhD - CSI Executive Director

CSI New Strategic Plan, Mission & Vision Statements

In August 2024, CSI announced the completion of our first strategic plan—a roadmap for sustainability, growth, and deeper community impact. Guided by consultants Heidi Holtz (Stillwork Coaching and Consulting) and Patty Weisse (Patty Weisse Consulting), CSI's strategic planning began in 2023 with a Nonprofit Lifecycles Capacity Assessment to evaluate organizational strengths and areas for improvement. A leadership team of board members and senior staff met regularly to analyze findings, conduct program mapping, and develop key strategies. Stakeholder interviews provided additional insights, shaping three "Strategic Pathways" with clear objectives and action items. A spring board retreat hosted by Sheldrake Point Winery, as well as staff input on priorities, refined and finalized the plan. As part of this process, we recognized that our previous mission statement did not fully reflect the scope of our work. While it emphasized volunteer water quality monitoring partnerships, it overlooked our fee-for-service water testing and water science education efforts. To better reflect CSI's full purpose, our board and staff revised the mission statement and crafted a new vision statement. The strategic plan, built on CSI's strong foundation, ensures sustained growth in volunteer water quality monitoring, fee-for-service testing, and water science education, aligning CSI's mission with the evolving needs of our community. This effort was made possible thanks to a generous gift from the estate of Tapan Mitra and a grant from the Emerson Foundation. Thank you for making this crucial capacity building work possible!

CSI's New Mission & Vision Statements: Adopted in November 2024

- **Mission:** To inspire and empower communities to safeguard water resources by cultivating scientific literacy through volunteer water quality monitoring, certified laboratory analyses, and education.
- **Vision:** Communities empowered by science to sustain, protect, and restore our shared water resources.



2024 JoW Program Metrics:

- 149 youth participants
- 60.2% of registered families self-reported their households earn \leq \$30,000 annually
- 14.3% of registered families reported they identify as a person of color
- 81% of registered families self-reported to live in Tompkins County, ~10% reported "other" counties, 7% reported Schuyler County, and ~1% reported Cayuga County.

The Journey of Water (JoW) is CSI's 12-part summer youth education series that's designed for kids 6-14. Thanks to generous support from the Park Foundation, we offer JoW at no cost to families. Participants follow the path of drinking and surface water through the Cayuga Lake Watershed, diving into hands-on topics like the water cycle, wetland science, wastewater treatment, biological monitoring, and water quality assessment. It's a fun, place-based series which allows kids to "dip their toes" into learning more about local water science.

In 2024, we hosted the first-ever Journey of Water Celebration! In November, participants gathered at the Lansing Community Center for a pizza lunch and to check out results from the Cayuga Lake and benthic macroinvertebrate samples they collected. Thanks to support from CSI's Tapan Mitra Environmental Education Fund, Finger Lakes Connected Learning Ecosystem/Learning Ecosystems Northeast, and the Park Foundation, every family received a Stream Exploration Kit to continue learning at home. Plus, we're equipping 10 local libraries with kits to be checked out by the community. It was an awesome way to wrap up a summer of hands-on science!



Certified Lab Operations

Bi-annual Certified Lab Inspection

The Environmental Laboratory Approval Program (ELAP) of the Wadsworth Center, certifies laboratories analyzing environmental samples from New York State to ensure accuracy and reliability. Every two years, ELAP assessors conduct an on-site evaluation of accredited laboratories, including CSI's, to evaluate their capabilities, qualifications, and compliance with ELAP regulations.

In November 2024, CSI successfully completed its assessment, and staff are addressing minor improvements during the winter 2024-2025 months. This certification is a critical process, and all of us at CSI take pride in maintaining this distinction.

To learn more about ELAP and how the certification process is applied to lab practices, please review the 2023 edition of The Water Bulletin, specifically the article "What Does it Mean to be a "Certified" Lab?".



Fee-for-Service Water Testing

2024 brought unexpected growth to our fee-for-service water testing program. When another local certified water lab lost its certification in July, our team quickly pivoted to a new subcontract lab in the middle of our busiest time of year. This involved revising our pricing, setting up invoicing and courier services with the new lab, and updating sampling protocols for subcontract tests. Additionally, many of those who were previously served by the lab that closed, now come to CSI to fulfill their water testing needs. This led to a 28.01% increase in testing volume, with 2,916 tests performed compared to 2,278 in 2023, along with a 13.42% revenue increase. Fortunately, we had already planned to expand our laboratory team, so the addition of a new Water Quality Scientist in May proved timely, helping us manage the surge in samples during the busy summer and fall seasons.

2024 Fee-for-Service Stats:

Total tests performed:	2,916
Test volume increased by:	28.01%
Earned revenue increased by:	13.42%

CSI Volunteer Monitoring Partnerships

Cayuga Lake Harmful Algal Bloom Monitoring



In 2024, CSI's Cayuga Lake HAB Monitoring Program operated with support from the Cayuga Lake Watershed Network, Discover Cayuga Lake, and the Seneca, Cayuga, and Tompkins County Health Departments. Over 100 "HABs Harriers" conducted weekly shoreline surveys and "HABs Carriers" transported samples from around the lake to CSI's lab for microscopy as well as chlorophyll a and microcystin analysis.

The 2024 season broke records for the earliest, latest, and most HAB reports since the program's launch in 2018. Volunteer engagement expanded to include aerial drone monitoring and a dedicated HABs Harrier posted signs to warn lake-bathers of active bloom conditions at Salt Point. Additionally, CSI staff and volunteers conducted a pilot study to understand the frequency, geographical distribution, and toxicity of floating clumps of benthic cyanobacteria in Cayuga Lake. For more details, see the 2024 edition of The Water Bulletin: "Record-Breaking HABs Season Sparks Community Action and Science on Cayuga Lake" and "Results from the 2024 HAB Clump Pilot Study".

2024 Program Stats:

of HABs Harriers: 98
 # of HABs Carriers: 8
 Vol. Drone Operator: 1
Total # of HABs Volunteers in 2024: 101

First HAB Reported: 06/03/24
 Last HAB Reported: 10/28/24
Total # of HABs Reported in 2024: 127

Synoptic Stream & Lake Monitoring

CSI's Synoptic Sampling Program, launched in 2002, is CSI's longest-running volunteer water monitoring program. Three times a year, volunteers collect samples at fixed stream or lake sites on the same day (i.e. synoptically). CSI's certified lab analyzes samples for nutrients, sediments, bacteria, and other water quality indicators, with results publicly available on CSI's Streams & Lakes Database.

A highlight of the 2024 synoptic season was CSI's partnership with Discover Cayuga Lake (DCL) for DCL's ongoing Trout in the Classroom program. In May, about 50 South Seneca fifth graders analyzed synoptic data from Sheldrake Creek to assess the Creek's suitability for trout release. The project emphasized data literacy, teaching students to access, compare, and evaluate public data. The students also met the synoptic volunteers who monitor Sheldrake Creek to interview them about what it's like to be a community scientist and for background knowledge about Sheldrake Creek. To learn more, check out the 2024 edition of the Water Bulletin: "South Seneca Elementary Students Dive into Sheldrake Creek Water Quality Data."



2024 Program Stats:

of Streams Sampled: 34
 # of Samples Collected: 545
 # of Monitoring Events Held: 53
Total # of Synoptic Volunteers in 2024: ~100

Biological Monitoring



Biological monitoring, or 'biomonitoring,' is a fun, affordable, and effective way to assess stream health by examining aquatic life. Benthic macroinvertebrates, commonly found in most streams, serve as reliable indicators of environmental changes due to their sensitivity to water quality.

In 2024, CSI led biological monitoring events throughout the Cayuga, Seneca, and Skaneateles watersheds, including a first-ever event at Grout Brook in the Skaneateles Lake watershed in July.

Alongside field sampling, we hosted open lab nights during the winter, where volunteers stayed engaged by picking through and identifying invertebrates collected the previous summer. Results from the 2024 monitoring season will be available on our website in spring 2025 on our website.

2024 Program Stats:

of Monitoring Events Held: 21
 # of New Monitoring Sites Added in 2024: 4
 # of Open Lab Nights Held: 20
Total # of Biomonitoring Volunteers in 2024: ~60

Volunteer Monitoring Partnerships

Red Flag Program

CSI's Red Flag Program began in 2010 in response to the immediate threat of fracking in New York. CSI volunteers' commitment to collecting vital water quality data was instrumental in establishing a baseline of 30,000 data points that would be crucial in the event of fracking coming to our state. In 2024, CSI made the difficult decision to end the Red Flag Program due to changes in community interest and organizational priorities.

In December 2024, CSI's dedicated Red Flag volunteers performed their final field assays, packed up their blue LaMotte kits, and sent their last data sheets to CSI for entry on our public database. As we close this chapter, we are committed to ensuring that the program's legacy lives on. CSI is building on Red Flag's successful model of streamside monitoring to address emerging water quality concerns, such as identifying candidate locations for native trout introduction in the upper Owego Creek watershed. The invaluable Red Flag dataset will also remain available indefinitely on our public water quality database.



Thank you to all of the volunteers who have contributed to CSI's Red Flag Program throughout the years!



2024 Program Stats:

# of Volunteer Teams:	8
Total # of Red Flag Events:	57
# water samples analyzed:	250
# of creeks/streams monitored:	14

Database Updates, Improvements, & New Features

CSI's Water Quality Database has undergone significant improvements in 2024!

Key updates include:

- **The Streams & Lakes database:**
 - enhanced search features, including export of latitude & longitude for GIS applications, and
 - improved data entry for monitoring events.
- **The Harmful Algal Bloom database:**
 - date range filtering capabilities with a search field to find specific bloom events, and
 - improved data entry for HAB events.
- We are also streamlining the entry and analysis of **Biomonitoring** data.
- CSI's website, database, and backups have also fully shifted to updated, secure servers.

To access the CSI Water Quality Database, scan the QR code below*:



We strive to make our database functional and accessible! For any questions, suggestions, or concerns regarding CSI's database, please send us an email at info@communityscience.org.

*To access the database via URL, type in: <https://www.database.communityscience.org>.

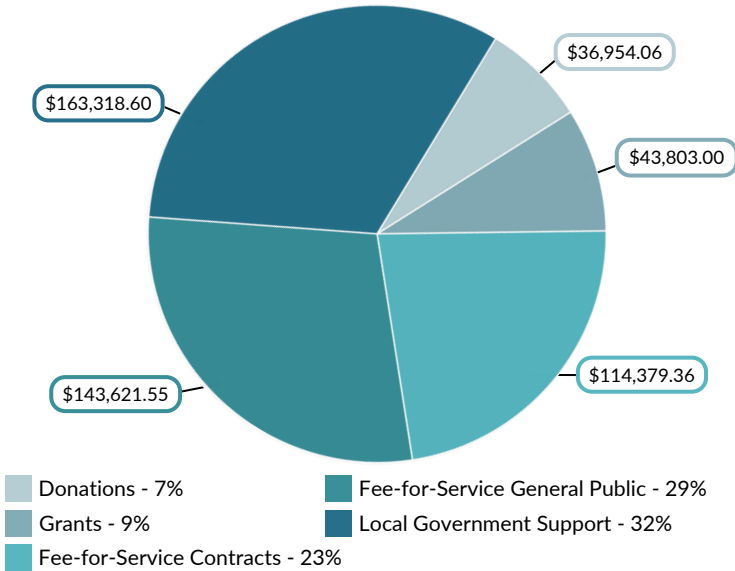


In 2024 CSI welcomed a new Database Developer, Rama Hoetzlein, to the team. Rama enjoys finding creative and innovative solutions to data visualization that democratize public access to knowledge. He is a media artist and engineer whose work covers creative and technical ways to explore information systems.

CSI 2024 Financial Report

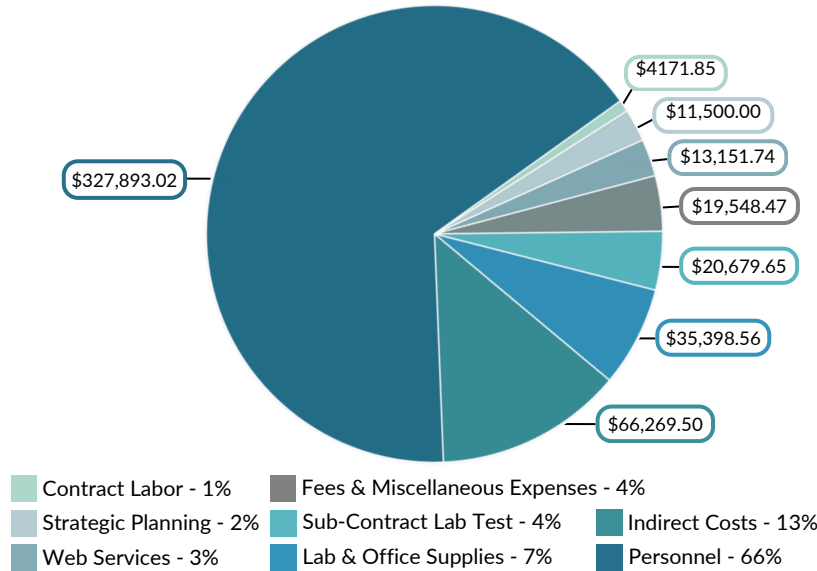
CSI's Total 2024 Income*: \$502,977.96

*Includes \$901.39 interest and dividends.



CSI's Total 2024 Expenses*: \$500,008.25

*Includes \$1395.46 travel and transportation.



CSI 2024 CSI Members

Percentage of donors at each membership level:

- Creek \$25 - 8%
- River \$100 - 37%
- Estuary \$500 - 9%
- Stream \$50 - 19%
- Lake \$250 - 14%
- Watershed \$1,000 - 14%

We are deeply honored to have received donations in memory of M. Louise Cannon and William Beckenhaupt. It is both a privilege and a heartfelt responsibility to continue this important work in their honor.

John Abel
 Judith Abrams & Sherman Kelly
 Paul Allderige
 Deborah Allen
 *Robert Barton
 Grace Bates
 Diana Beckenhaupt
 Harriet & Franklin Becker
 David Bouldin
 Raymond Brisson
 Taylor Buhler
 Gertrude Buxenbaum
 Linda & Cory Byard
 Meredith Carpenter
 Stephen & Sherie Carroll
 Tom & Amy Casella
 James Chamberlain & Karen Dyson
 Barbara Chase
 Diane Chu
 Anne B. Clark
 David Cleveland
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 Karen Comstock
 Marnie Cryer
 Edward & Nancy Currier
 Holly & Brad Davidson
 *Sheila Ann Dean
 Tony Del Plato
 Suzanne DeMuth
 Barb DeWall
 Lloyd Dropkin
 Marie Eckhardt
 *Hollie Ellison

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 Eric Evans
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 Karen Fox
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 James Gossett
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 Louise Mudrak
 Martin Murtagh
 Ezra Oyer
 Taylor (Lory) Peck
 Dylan Penningroth
 *Stephen Penningroth
 Eileen Percevault
 Judith Pierpont
 Ed & Roberta Przybylowicz
 Elaine Quaroni
 Esther Racoosin
 C.J. Randall
 Kenneth & Martha Riemer
 Susan Robinson & Martha Fischer
 John Rueckheim
 Sue & Steve Ruoff
 Lisa Sadlik
 Gary Samuels
 Donald Sargent
 Ray & Kathy Schlather
 Linda Schoffel
 Donna Scott

Deborah Shea
 Grascen Shidemantle
 Becky Sims
 Leo Soderholm
 Margaret Soulstein
 David Streib
 Arthur (Chuck) Tauck
 Regi Teasley
 *Robert Thomas
 Joanne Torma
 Curtis & Amanda Ufford
 *Gerald (Jerry) & Nancy Van Orden
 Marilyn Vogel
 David Weinstein
 Robert Weiss
 Patty Weisse
 Roberta Weissenberg
 Mark Wilson
 Alicia Wittink
 Tim Wolcott
 David Wolfe
 Tina Wright
 Andrew Yale & Brenda Kuhn
 Stephen & Amy Yale-Loehr
 Aleah Young
 Nancy Zahler

 Green Lane Shores Cottage Assoc.
 Ithaca Reggae Fest
 Taughannock Garden Club
 West Shore Neighborhood Assoc.

 *2024 CSI Board Members

Local Government Support for Stream & Lake Monitoring:

- Cayuga County - \$30,000
- Seneca County - \$15,000
- Tompkins County - \$35,075
- City of Ithaca - \$10,790
- Town of Caroline - \$3,500
- Town of Danby - \$4,463
- Town of Dryden - \$11,648
- Town of Enfield - \$2,653
- Town of Fayette - \$697
- Town of Ithaca - \$23,300
- Town of Newfield - \$6,662
- Town Of Scipio - \$500
- Town of Ulysses - \$6,698
- Town of Lansing - \$7,283
- Village of Cayuga Heights - \$5,050



Grants & Other Financial Awards:

- Cayuga Foundation
- Central New York Community Foundation - TW Fund
- Cornell Cooperative Extension
- Cornell University
- Finger Lakes Connected Learning Ecosystem (CLE)
- Fred L. Emerson Foundation
- Oyer Family Donor Fund
- Park Foundation
- Taughannock Garden Club
- Community Foundation of Tompkins County Funds:
 - Resilient Communities Grant
 - Community Science Institute's Tapan Mitra Environmental Education Fund
 - Sue & Steve Ruoff Fund
 - Taylor Peck Fund
- Fidelity Charitable Funds:
 - Gary Samuels Sharing Fund
 - Gorvaul Family Giving Fund
 - Langkammerer Hartmanis Fund



2024 Staff

- Grascen Shidemantle, PhD - *Executive Director*
- Noah Mark - *Laboratory Director*
- Alyssa Johnson - *Outreach & Programs Coordinator & Cayuga Lake HABs Monitoring Program Coordinator*
- Charlene Mottler - *Office Administrator*
- Adrianna Hirtler - *Biomonitoring Coordinator*
- Seth Bingham - *Water Quality Scientist*
- Daniel Pascucci - *Water Quality Scientist*
- Rama Hoetzlein - *Database Developer*

Contract Services

- William George - *Data Entry Specialist*

2024 Board of Directors

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



CSI's 2024 Volunteer Awardees:

Sally, Marie, & Dave's flexibility and willingness to assist above and beyond when needed (often with little notice) was extremely appreciated during Cayuga Lake's 2024 record-breaking HABs season.

Congratulations and thank you for your on-going support and dedication to water quality!

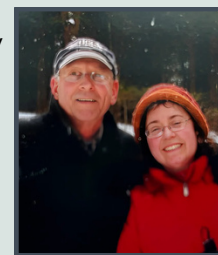
Sally Yates



The 2024 New Volunteer of the Year!

HABs Harrier at Dean's Cove NYS Boat Launch

Marie & Dave Eckhardt



The 2024 Dr. Stephen Penningroth Volunteer(s) of the Year!

HABs Harrier and Carrier in Aurora, Plankton Surveys, Synoptic Stream Monitoring



Community Science
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Partnering with Communities to Protect Water

2024 Annual Report

**95 Brown Road/Box 1044
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Ithaca, NY 14850
Phone: (607) 257-6606
Email: info@communityscience.org**

**Certified Water Quality Testing Lab
NYSDOH-ELAP #11790**

Send To:

Partnering with Communities to Protect Water Since 2002