

# Community Science Institute

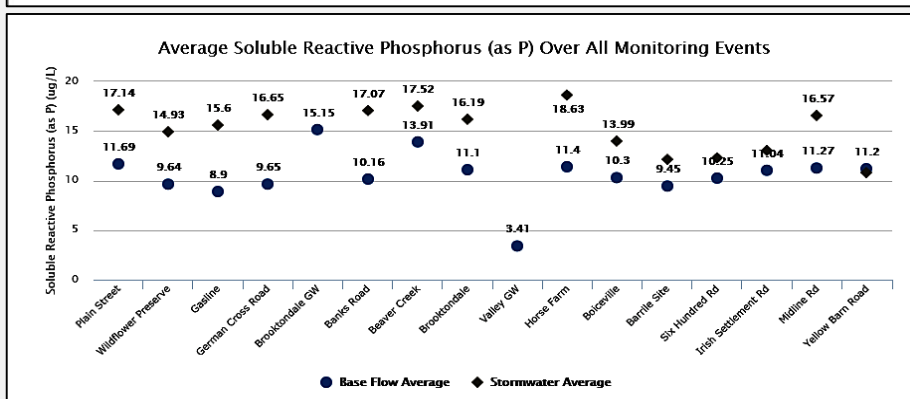
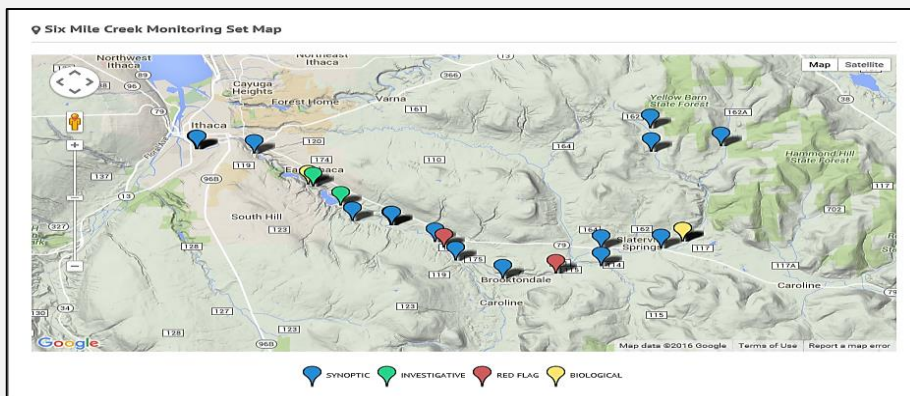
## 2014 Annual Report

Partnering with communities to protect water since 2002

### 2014 Highlights

- ◆ Partnered with 200+ volunteers in water quality monitoring programs covering more than 250 stream locations in South-Central New York
- ◆ Completed our 12<sup>th</sup> year of water quality monitoring in Cayuga Lake and its tributary streams
- ◆ Marked five years of support for Red Flag volunteers monitoring baseline stream water quality in the Upper Susquehanna River watershed
- ◆ Formed a new partnership with Seneca Lake Pure Waters Association (SLPWA) to assess water quality in Seneca Lake tributary streams
- ◆ Provided local lab support for Hydrilla eradication efforts by analyzing concentrations of the herbicides Endothall and Fluridone applied in the Cayuga Inlet and Fall Creek
- ◆ Collaborated with Ithaca's Sciencenter to demonstrate biological stream monitoring to the general public by collecting and analyzing aquatic insects called benthic macroinvertebrates (BMI)
- ◆ Published over 7,000 pieces of water quality data with interpretive graphs and maps in our free, public data archive at [database.communityscience.org](http://database.communityscience.org)

### Online Public Water Quality Data Archive



The images at left present water quality data from one page of the CSI database.

- Top: A map of the Six Mile Creek watershed, Ithaca's drinking water source, with volunteer monitoring locations.
- Bottom: Average concentrations of dissolved phosphorous at each location under low and high flow conditions, 2004-2015.

### Our Mission

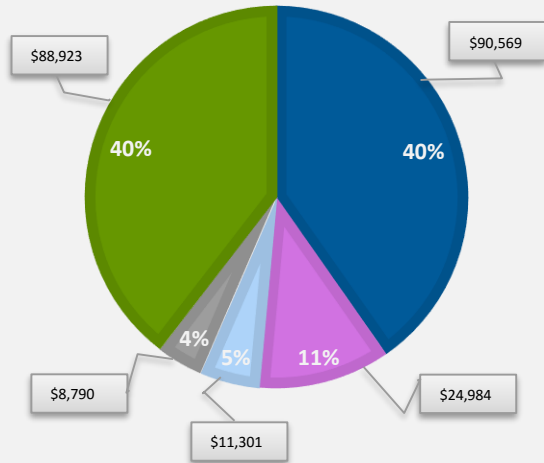
The mission of the Community Science Institute is to foster and support local environmental monitoring in partnership with volunteers in order to gain a better understanding of natural resources and how to manage them for long-term sustainability.

## CSI 2014 INCOME

TOTAL: \$224,619\*

\*INCLUDING \$51.66 INTEREST AND DIVIDEND INCOME

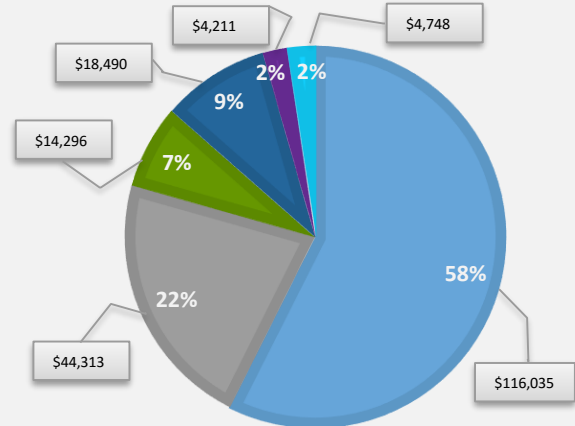
- Municipal Governments
- Grants
- Membership Donations
- Other donations
- Fee-for-service lab tests



## CSI 2014 EXPENSES

TOTAL: \$202,094

- Personnel
- Lab Supplies
- Office Supplies
- Indirect Costs
- Subcontract lab tests
- Travel, training, other



## Our Donors

### Watershed (\$1000+)

Anonymous  
Cornell University  
Patricia Nelson  
Dylan Penningroth & Carolyn Chen  
David Weinstein & Christina Stark  
Ithaca Alternative Gift Fair

### Estuary (\$500+)

Community Foundation of Tompkins County – Taylor Peck Fund  
West Shore Homeowners Association

### Lake (\$250+)

Robert and Shirley Barton  
Jim Lassoie & Ruth Sherman  
Steve Penningroth & Judy Roberts  
Curtis & Amanda Ufford  
Alicia Wittink

### River (\$100)

Molly & Barry Adams  
Christopher Baurle  
Stephen Coate  
Herb & Connie Engman  
Eric Evans  
John Flowers  
Sara Hess & Jeff Furman  
Hewlett Packard  
Deborah Jones  
Rosalind Kenworthy  
Ted Marks  
Jim Murphy

### River, continued (\$100)

Ed Przybylowicz  
John Reed & Janice Burton  
Chris Riley  
Don Sargent & Shannon Barrett  
Linda Simkin and Jim Frisch

### Stream (\$50)

John Abel  
Dick Adams  
Nancy Ahlers  
G. Walton Cottrell  
Barbara Dewall  
Wes Ernsberger  
Kenneth Fogarty  
Glenn Galbreath  
Helen Gibson  
Thomas Halton  
Mark Hartsuyker  
Lee Hersh  
Jason Ingram  
Dan Karig  
John Kingsbury  
Mary Anne Kowalski  
Bruce Lewenstein  
Jonathan Miller  
Nancy Milliman  
Joe Morrison  
Taylor Peck  
Judith Pierpont  
Martha Robertson  
Susan Robinson  
Jack Rueckheim  
Sue Ruoff

### Stream, continued (\$50)

Paula Turkon  
Gerald Vanorden  
Irene Weiser  
Gerri Wiley  
Cayuga Lake Watershed Network

### Creek (\$25)

Becca Harber  
Jeffner Allen  
Douglas & Jane Brown  
Christine Brunner & James Butterfield  
Stephen & Carol Clendenin  
Marnie & Jonathan Cryer  
Jennifer Edmondson  
Clare Greene  
Martha Hamilton & Mitch Weiss  
Carol Hardy  
Dave Heck

Lee Hersh  
Robert Kibbee  
& Janet McCue  
Dooley Kiefer  
Hilary Lambert  
Lili MacCormick  
Addison & Diane Mason  
Pete Meyers  
Don & Sue Rakow  
Lynn & Peter Smith  
Nancy Zahler

### Local Government Support

Tompkins County - \$25,250  
Town of Ithaca - \$18,740  
Town of Dryden - \$12,528  
City of Ithaca - \$10,278  
Town of Ulysses - \$5,606  
Town of Newfield - \$4,632  
Town of Danby - \$3,662  
Town of Caroline - \$2,873  
Town of Hector - \$1,000

### Grants & Contracts

Legacy Foundation of Tompkins County - \$3600  
Tompkins Charitable Gift Fund - \$2,000  
Seneca Lake Pure Waters Association - \$18,384  
Sciencenter - \$1,000

## Executive Director's Message

CSI's activities in 2014 can be characterized as a combination of continuity and growth. We continued our stream monitoring partnerships with over 30 volunteer groups in the Cayuga Lake and Upper Susquehanna River watersheds. We posted about 4,000 new certified data items for Cayuga Lake and its tributaries and 3,700 new pieces of baseline water quality data collected by our Red Flag volunteers in the field into our interactive data archive at [database.communityscience.org](http://database.communityscience.org). The size and continuity of these data sets add greatly to their usefulness for characterizing water quality, for spotting trends in parameters like phosphorus, suspended solids and salt, and for assessing impacts from diverse land uses such as agriculture, wastewater treatment facilities, and commercial development. We added a third regional watershed to our monitoring activities when the Seneca Lake Pure Waters Association (SLPWA) proposed a partnership to investigate water quality in Seneca Lake tributary streams. The results, which are posted in CSI's public data archive, reveal elevated phosphorus and E. coli levels. We look forward to partnering with SLPWA again in 2015.

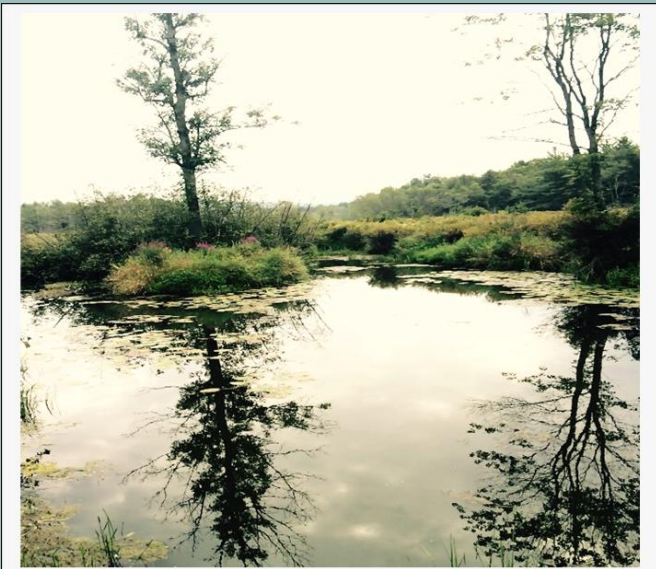
CSI staff continued to work with volunteers to conduct biological monitoring by collecting and identifying benthic macroinvertebrates (BMI) from over a dozen stream riffles and posting results at [communityscience.org/bmi-results](http://communityscience.org/bmi-results). Because BMI families vary with respect to their pollution tolerance, the composition of the BMI community says a lot about a stream's overall ecosystem health. Two CSI analysts, Michi Schulenberg and Adrianna Hirtler, passed a challenging exam to become certified by the Society for Freshwater Science as BMI taxonomists to the family level. In other staff news, CSI welcomed Laura Dwyer onboard as a Laboratory Analyst. Laura has a degree in chemistry from the University of Notre Dame and along with Senior Laboratory Analyst Michi Schulenberg performs the lab's chemical and microbiological assays.

In addition to our volunteer partnerships monitoring water quality in the Cayuga Lake, Seneca Lake and Upper Susquehanna River watersheds, CSI continued to provide essential testing services to private homeowners, businesses and government agencies in our region. The lab again assisted the Hydrilla Task Force in Ithaca by measuring levels of the herbicides endothall and fluridone in the Cayuga Inlet and Fall Creek. The CSI lab also supported New York State Parks by testing weekly samples from eleven Finger Lakes swimming beaches for E. coli.

The much anticipated decision by the Cuomo Administration regarding high volume hydraulic fracturing (HVHF), or fracking, culminated in a ban in New York based on evidence of health risks associated with this unconventional technology in other states. However, at least two issues remain: New York continues to support and expand the infrastructure required for fracking in other states, such as landfills that accept fracking waste and pipelines and compressor stations that bring the gas to market; and a future administration could undo the ban. The ongoing documentation of water quality in small streams in the Marcellus Shale region by CSI's Red Flag volunteers serves to maintain continuous data sets that can be used to assess impacts from infrastructure build-out or from fracking, were it to be permitted at some point. Equally significant, CSI's regional database of "signature chemical" levels in 260 private wells, possibly the largest of its kind, shows that groundwater in New York's Marcellus Shale region is essentially pristine. Thus, CSI's baseline data for surface water and groundwater remain a powerful tool for characterizing water quality across New York's Southern Tier region. Our network of dedicated Red Flag volunteers is uniquely positioned to address a variety of water quality concerns in addition to fracking. Nutrients entering Chesapeake Bay are under active discussion for possible incorporation into our Red Flag program.

Thanks to everyone who supported CSI this year!

*Stepha L. Penningroth*



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## CSI Board of Directors

David Weinstein, *President*  
Gerald Van Orden

Angel Hinckle, *Vice President*  
Deborah Jones

Stephen Penningroth, *Treasurer*  
Robert Barton

Eric Evans, *Secretary*  
Patricia Nelson





## Community Science Institute

283 Langmuir Lab  
 95 Brown Road/STE 1044  
 Ithaca, NY 14850  
 Phone: 607-257-6606  
 Fax: 607-257-6606

Certified Water Quality Testing Lab  
 NYSDOH-ELAP #11790  
 EPA Lab Code NY01518

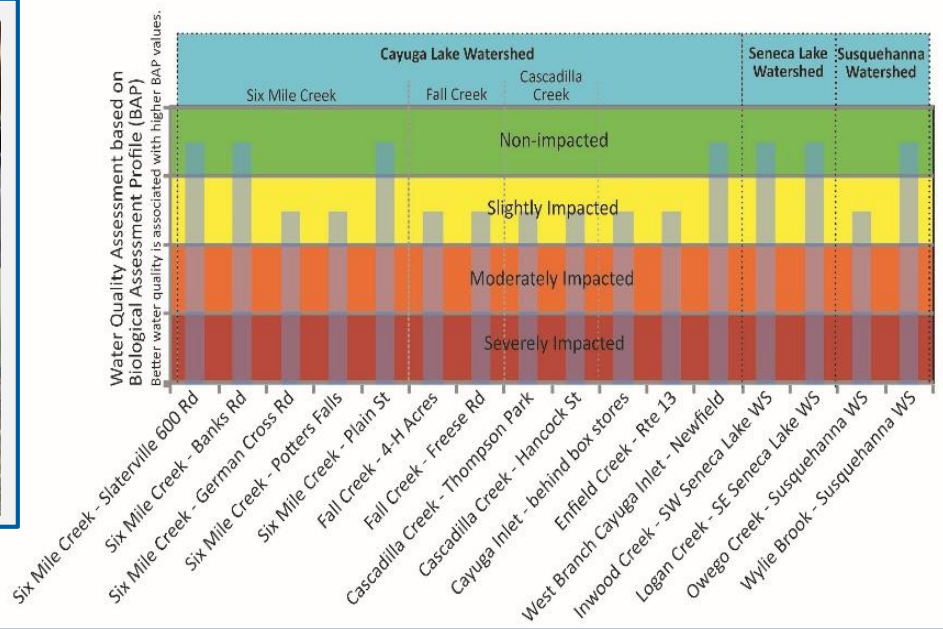
Send To:

Partnering with communities to protect water



### Biological Monitoring Program at Work

CSI Biological Monitoring Results for 2014



CSI collaborated with groups comprising about 40 individual volunteers as well as 4 educational groups to sample 15 sites in 10 different streams within the Cayuga Lake, Seneca Lake and Susquehanna River watersheds for BMI. Approximately 50 individual volunteer hours were spent collecting BMI samples. In addition to volunteer groups who worked mostly independently on their samples, 174 individual volunteer hours were spent at the CSI lab picking, sorting and identifying organisms from preserved samples over the fall and winter following the summer sampling season.