Opportunities for all ages, promoting academic excellence, environmental literacy, and lifelong relationships with the waterways that define our communities.
Our Fifteenth Year of Engagement

In 2002, communities around Cayuga Lake identified education and lake access as priorities for ensuring the future of our water resources. In response, the founders of the Cayuga Lake Floating Classroom took cues from successful models in environmental education, such as the Lake George Floating Classroom and the Hudson River Sloop Clearwater, and the Cayuga Lake Floating Classroom was born. Today, we serve more than 3000 students annually, providing a range of inspiring—and we believe empowering—educational experiences.

The volunteers and community members who have committed their time and energy to the Floating Classroom over the past 15 years have honed an understanding of our mission, the needs we address, and the values to which we adhere.

- Community Building: We collaborate and share ideas.
- Local Learning: We study local ecosystems and issues.
- Direct Experience: We emphasize learning by doing.
- Equal Access: We create opportunities for everyone.
- Engagement: Ideas matter, and everyone contributes.

Bringing this vision to life requires facilities that most schools could never offer on their own: a commercial passenger vessel, field science equipment, cold-water aquarium systems, and instructors who are comfortable in many environments. We work hard to make sure these resource-intensive programs are available and affordable to all students and community groups. In fact, we administer over $25,000 in scholarships each year to ensure that just about every student in the Cayuga Lake Watershed meets us at some point before he or she graduates.

We’ve come a long way since 2002 and we owe a tremendous debt of gratitude to our sponsors and to our clients—educators who support us by bringing their classes back, year after year. Looking ahead, however, the Floating Classroom is rapidly approaching a crossroad. Our Board of Directors has come to agreement that, if we are to continue improving the quality and range of our services, the Floating Classroom will need to purchase the boat we call home. This is an exciting step, but it will require us to turn the wonderful comments and feedback we’ve gotten over the years, into something a bit more substantial. Near the end of this report, you will see the first step in our development campaign—a call for volunteers and sponsors from within the communities we serve. If you like what we do, please consider joining us in making 2017 a seminal year for the Cayuga Lake Floating Classroom, and for all of our Finger Lakes.

See you on the water!

- Bill Foster, Director
  floatingclassroom@gmail.com

Floating Classroom interns lead plankton sample collection for Finger Lakes visitors during an afternoon eco-cruise.
Addressing a Need in the Finger Lakes

The Floating Classroom works closely with the Cayuga Lake Watershed Inter-Municipal Organization (IO), and with the Cayuga Lake Watershed Network to address two priorities established in the *Cayuga Lake Watershed Restoration and Protection Plan (2001)* - education and community outreach.

At the same time, we are responding to the need for exciting, inquiry-based learning opportunities that can put Central New York youth on the path of becoming successful students and, ultimately, informed citizens and community leaders. The Floating Classroom supports a small staff, uniquely experienced to host cruises on Cayuga Lake, to organize field trips to local streams, and to equip classrooms with cold-water aquarium systems. This report outlines our work in each of these areas.

### Our Clients in 2016

**School Districts (Watershed Access Fund Eligible)**

- Auburn
- Dryden
- Groton
- Ithaca
- Lansing
- Newfield
- So. Seneca
- So. Cayuga
- Seneca Falls
- Trumansburg
- Tully
- Union Springs

**Other Watershed Access Fund Recipients**

- New Roots School
- Peachtown School
- Camp Caspar Gregory
- EA Clune Montessori
- Ithaca Youth Bureau
- Learning Web
- Greater Ithaca Activities Center
- Southside Community Center
- Immaculate Conception School
- Tompkins Co. Rural Youth Services

**Private Organizations & Institutions**

- Cornell University
- Ithaca College
- Wells College
- Finger Lakes CC
- Tompkins-Cortland Community College

*(Top)* The Floating Classroom charters the MV Haendel, operated by Ithaca Boat Tours, LLC. *(Bottom)* The Floating Classroom offers experienced instructors, who guide students from 5th grade through college, during lab activities. Student to instructor ratio is usually 6:1.
Our Programs

The Floating Classroom offers volunteer and community outreach events throughout the year. Our focus, however, is educational enrichment programming. Annually, we work with nearly 3000 students, providing lake-based cruise programs, May through October, and “Trout in the Classroom” programs during the colder months.

The Eco-Cruise Experience

As with all Floating Classroom programs, students are encouraged to think of themselves as “student-scientists” when they board our vessel. In fact, we depend on student data, collected and recorded under the supervision of our instructors, to generate several long-term lake data sets that help us understand the processes at work in Cayuga Lake.

During Eco-cruises, students learn the human and natural history of the lake, and participate in lab activities, focusing on plankton and biological factors, water chemistry, earth and energy systems.

Floating Classroom instructors use interpretive themes, updated annually, to help students organize and interpret their observations. The themes are selected because they are applicable to the Finger Lakes, academically relevant, and suggest opportunities for personal engagement.

Engagement Theme #1

Invasive Species

Discoveries, by Floating Classroom interns, of the highly invasive plant, *Hydrilla verticillata*, in the Cayuga Inlet in 2011, and again near Aurora in 2016, have highlighted a growing regional concern. Throughout the Finger Lakes, invasive species comprise one of the most significant and immanent threats to regional ecosystems and economies. Now, the ongoing, multi-million dollar effort to eradicate Hydrilla in Cayuga Lake provides a powerful “teachable moment”.

In response, the Floating Classroom now presents a continuum of learning experiences for students and adults, running from our headwaters downstream to the lake, itself.
Engagement Theme #2

Emerging Contaminants

Synthetic chemicals are known to be causing widespread harm to aquatic eco-systems and our global drinking water supply. Emerging data makes it clear that this is also a concern for our local waterways. Since consumer products like cosmetics, plastics and pharmaceuticals are a big part of the problem, we believe that education and engagement are a timely priority. The Floating Classroom is working with local researchers to understand the state of Cayuga Lake, and to help our citizens understand their role in keeping it clean.

Engagement Theme #3

Climate Change

The Finger Lakes are increasingly impacted by changing weather patterns associated with global climate change. As suggested by increasingly frequent algae blooms and changing fish populations, plants and animals in Cayuga Lake are also experiencing the impact of these changes. The impacts, however, will extend far beyond lake ecology to affect regional agriculture, tourism, infrastructure and, indeed, the ways in which we use and enjoy the lakes on a day-to-day basis. The Floating Classroom is prioritizing this issue, seeking to prepare the next generation of leaders to address the impact of global processes effectively and wisely, on a local scale.
Internships & Advanced Studies

The Floating Classroom offers opportunities for young people to build on their introductory field trip experiences by getting involved in continuing citizen science projects, offered throughout to the cruise season.

Additionally, Floating Classroom internships for high school and college-aged candidates are available throughout the year. The internships are designed to help older students explore interests and gain practical experience in the sciences, education and civic engagement.

The Floating Classroom hosted six high school interns and three college interns during 2016. Our interns supported our ongoing study of the impact of climate change on Cayuga Lake, took on leadership roles with teams of volunteer Hydrilla monitors, and shared their knowledge with community groups and visitors.

We are tremendously proud of the accomplishments of these young people, and hope to expand both our internship program and our after-school advanced study options during 2017.

The Cayuga Lake heat budget depicts maximum heat stored in lake annually, based on student temperature data collected during Floating Classroom eco-cruises. Data compiled by Floating Classroom interns from 2012-2016 is compared to maximum heat calculated by Biroe & Juday. 1911. (** Includes draft data for 2016.)
Trout in the Classroom

The Floating Classroom sponsors and coordinates a growing network of schools participating in “Trout in the Classroom”, or “TIC”. Students in each participating class are equipped with a cold-water aquarium system, which they learn how to manage throughout the school year. Trout eggs arrive in the fall, and with our help, students raise fingerling trout over the winter to be released during spring expeditions to local streams.

The Floating Classroom works with volunteers and several local partners, including Trout Unlimited, US Fish and Wildlife and the NY Dept. of Environmental Conservation, to provide financial assistance and technical support for teachers, as well as five class visits through the year, and additional enrichment curriculum as needed.

<table>
<thead>
<tr>
<th>2016-2017 “Trout in the Classroom” Schools</th>
<th>Grade</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cayuga Heights Elementary</td>
<td>5</td>
<td>55</td>
</tr>
<tr>
<td>Enfield Elementary</td>
<td>4</td>
<td>34</td>
</tr>
<tr>
<td>Belle Sherman Elementary</td>
<td>5</td>
<td>58</td>
</tr>
<tr>
<td>Beverly J. Martin Elementary</td>
<td>4</td>
<td>43</td>
</tr>
<tr>
<td>Caroline Elementary</td>
<td>4</td>
<td>45</td>
</tr>
<tr>
<td>Fall Creek Elementary</td>
<td>4</td>
<td>38</td>
</tr>
<tr>
<td>South Hill Elementary</td>
<td>4</td>
<td>59</td>
</tr>
<tr>
<td>Northeast Elementary</td>
<td>4</td>
<td>42</td>
</tr>
<tr>
<td>Dryden Elementary</td>
<td>5</td>
<td>120</td>
</tr>
<tr>
<td>Newfield Middle School</td>
<td>7</td>
<td>66</td>
</tr>
<tr>
<td>Groton Middle School</td>
<td>6</td>
<td>63</td>
</tr>
<tr>
<td>Union Springs Middle School</td>
<td>6</td>
<td>65</td>
</tr>
<tr>
<td>Lansing High School</td>
<td>10</td>
<td>120</td>
</tr>
<tr>
<td>Lansing Elementary School</td>
<td>4</td>
<td>80</td>
</tr>
<tr>
<td>Trumansburg Middle School</td>
<td>6</td>
<td>76</td>
</tr>
<tr>
<td>South Seneca</td>
<td>5</td>
<td>60</td>
</tr>
<tr>
<td>Immaculate Conception</td>
<td>3, 4, 5</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1056</td>
</tr>
</tbody>
</table>

“MY STUDENTS ARE SO EXCITED.
I RECEIVED A CALL FROM ONE STUDENT, WHO, UNFORTUNATELY WAS ON HER WAY TO THE HOSPITAL WITH PNEUMONIA. SHE WAS VERY WORRIED THAT SHE WOULD MISS SEEING THE TROUT EGGS HATCH!”

Liz McCheyne, teacher at South Seneca Elementary

Instructor Caroline Hoover demonstrates stream sampling techniques for Cayuga Heights Elementary 4th graders, as they prepare to release trout that they raised throughout the winter.

During 2016, FC staff assisted participating teachers in accessing Trout in the Classroom resources to create new and exciting STEM, Language Arts and Fine Arts lessons and curricula for their classes, in response to Common Core and local requirements.

Live trout and aquariums support truly engaged learning through the school year. Here, students at Belle Sherman Elementary participate in a hydroponics experiment, installed in their aquarium.
Assessing Impact

Academics In 2014, with help from Wells College, we initiated pre- and post-cruise surveys exploring our impact on student mastery of specific subject matter and systems thinking. The results have been positive.

- Students demonstrated increased understanding of lake systematics and aquatic food webs after their Floating Classroom program. 78% of middle schools students identified plankton as primary producers in a lake after their cruise, up from 46% - a 70% increase.
- Nearly all indicated an understanding of the relationship between sunlight, water clarity and plankton productivity in the lake.

Personal Impact
We also sought to evaluate our impact on students’ perceptions of their own level of expertise. The results suggest that the impact of our work extends beyond strictly academic metrics. We believe there is a connection between these positive self-assessments and continuing engagement. In fact, many Floating Classroom alumni are pursuing continuing education and careers in fisheries biology, environmental science and policy.

Making it Affordable
Certainly, eco-cruises and aquarium systems are more costly than classroom videos, or “virtual field trips”. Nevertheless, we are convinced of the value of this investment in hands-on learning. And, to ensure that cost does not preclude the participation, we maintain a “Community Access” fund.

Although our 2016 season was reduced by over two months due to boat repairs, a total of $15,882 was allocated for Eco-cruise scholarships in 2016. An additional $13,500 in funding was allocated to support schools in the Trout in the Classroom program.

Online teacher surveys provide valuable feedback on the curricular impact of Floating Classroom programs.

Students showed a significant boost in their own self-assessment, indicated that they felt more confident in their knowledge after their Floating Classroom trip.

Community Access scholarships vary with need. This chart divides assistance commitments from 2014-2016 into four categories. None (no assistance required), Low (up to 33%), Modest (34-67%) and high (up to 100%).
Our Priorities for 2017

Securing a Vessel of Our Own

Many people are surprised to learn that, after 15 years, the Floating Classroom does not actually own a boat. As a matter of fact, we have chartered boat services from Ithaca Boat Tours since the beginning. Captain Dennis Montgomery brought the MV Haendel onto Cayuga Lake in 2002, specifically for the purpose of supporting an education program on the water, and we have enjoyed a fantastic relationship with Ithaca Boat Tours over the years.

For many reasons, however, now is the time for us to proceed independently. Ultimately, we expect to purchase of our own vessel at the start of 2018, but there is a great deal to accomplish during 2017, in order to set the stage for this big step.

- Market research: Our goal is to develop an educational tourism program for Finger Lakes visitors that will provide a new experience for Ithaca-area visitors, and help fund education for local students.

- Outreach to Watershed and other regional partners: In anticipation of offering a greater scope of programming on the lake, we also hope to proceed in a collaborative, rather than competitive manner. We will seek new and stronger partnerships with respect to lake-wide invasive species and watershed quality issues, STEM curriculum enrichment, recreational programs and community outreach.

- Fundraising: During 2017, we will be reaching out to our community with a significant fundraising campaign. The Floating Classroom has developed a reputation for accomplishing a lot with a very modest budget, and we intend to stay “lean and mean”. Nevertheless, purchasing and supporting our own vessel, and creating an environment for success around it, will require a substantial, if temporary, increase in fundraising.

WE’RE BUYING A BOAT!

Help Us Meet our 2017 Donations

Goal - $30,000!

- Online donations can be made via the Center for Transformative Action’s secure undraising page. From www.floatingclassroom.net, just click “Donate” in the right-hand column.

- Donations by check should be payable to "CTA-Floating Classroom", and mailed to Center for Transformative Action, 119 Anabel Taylor Hall, Ithaca NY 14853.

THANK YOU!

Volunteer of the Year – Phil Koons

Community members like Phil, who contributed over 100 hours in 2016, model commitment and caring for our younger participants. THANK YOU PHIL!
Funding & Financial Status

The Floating Classroom Advisory Board and Director work under the authorization of the 501(c)(3) not-for-profit Center for Transformative Action. The Center provides financial services, legal and organizational oversight. However, the Advisory Board and Director are fully responsible for the procurement and allocation of all program funds. We strive for a diverse and sustainable balance of revenues, which may be categorized as follows.

- **Grants.** We typically derive one-third of our revenue from multiple grants each year. Continuing support from the Park Foundation and TRIAD Foundation have provided a foundation for our youth outreach programs and Trout in the Classroom, respectively.

- **Contracts.** Our most significant contract is with the Cayuga Watershed Intermunicipal Organization, whose support underpins our Community Access program for Watershed schools and organizations. Contracts for citizen monitoring and public education programs are a growing portion of our revenue.

- **Client Payments.** Overall, client fees cover roughly one-third of our expenses. Educators receiving financial aid pay, on average, 50% of program values.

- **Donations & Sponsorships.** Individual, corporate and organizational contributions, including annual support provided by the Leon Chandler Chapter of Trout Unlimited, comprise a growing component of our funding base. We expect this critical element of our revenue stream to exceed 15% in 2017.

---

The Floating Classroom awards at least $25,000 annually in scholarships. Your business or organization can sponsor a class trip in 2017!
WHO IS THE FLOATING CLASSROOM?

We depend upon a growing community of volunteers, donors and sponsors to help us offer great programs and keep them available to all. From all of us – THANK YOU!

Our special thanks to outgoing Board Members, Jeff Furst & Alicia Plotkin, each of whom served with distinction over the years!

We also want to acknowledge the tireless collaboration of Cayuga Lake Watershed Steward, Dr. Hilary Lambert.

Floating Classroom Supporters

Organizations, Communities & Foundations

- Cayuga Foundation
- City of Ithaca Water Department
- Hairston Lab, Cornell University
- Greater Ithaca Activities Center
- Legacy Foundation
- The Friendship Fund
- Paddle-n-More
- Southside Community Center
- Tompkins Co. Water Resources Council
- Trout Unlimited, Leon Chandler Chr.
- Religious Society of Friends
- Cayuga Lake Watershed Network
- Community Science Institute
- Finger Lakes Regional Parks
- Ithaca Youth Bureau
- Stormwater Coalition of Tompkins Co.
- John Ben Snow Foundation
- Park Foundation
- Tompkins Co. Rural Youth Services
- TRIAD Foundation
- Wells College
- Social Service League of Ithaca

& Member Communities of the Cayuga Lake Inter-municipal Organization!

Individuals

- Christa Chatfield
- Robin Driskel
- Roger Post
- Marissa Zuckerman
- Jeffrey Furst
- Casey Martin
- Lorraine Schmitt
- Kate Marshall
- Judy Mahaney
- Jerry Codner
- Louise Mudrak
- Margaret McCasland
- Jay Rogan
- Jo-An McLinn
- David Ritchie
- Shelley Blackler
- Cynthia Hyndman
- Colleen McLinn
- Marian Brown
- Bill Foster
- James Lerberg
- John Block
- Phil Koons
- Carolyn Richards
- Jason McLinn
- Peter Davies
- Jesse Miner
- Susan Cramer
- Carroll & Nancy Cook
- Stephanie Sundlof
- Patricia Haines-Gooding
- Cynthia Koepp
- Jeffrey Werner
- Lynn Leopold
- Richard & Lola Schissel
- Hilary Lambert
- Yadier Fuentes
- Mike Mahaney
- John L. Turney
- Lynn Pohl
- Laurie Konwinski
- Peachtown School
- Jessica Confer
- Paul Flagg

Volunteers

- Ken Kemphues
- Phil Koons
- Michelle Henry
- Ben Jackson
- Lee Yoke Lee
- Mike Bennett
- Michael Lenetsky
- Jessica Crouch
- Gian Dodici
- Scott Schlueter
- Ken Osika
- Camille Doucet
- Peter Davies
- Dennis Rhoads
- Liz McCheyne
- Jennifer Wilkie
- Jenny Kim
- Imani Pakzad
- Jane Wei
- Jill Blanchard
- Elizabeth Freilich
- Franny Lux
- Mauricio Chavez
- Oliver Sugerman
- Ailin Dolson-Fazio
- Lamar Johnson

...and ALL 61 Hydrilla Hunters

Interns

- Caroline Hoover, Instructor
- Mark Clooney, Instructor

Our Staff (pictured elsewhere!)

- Bill Foster, Program Director
- Mariah Mahaney, Program Manager
- Ben Jackson, Instructor