CAYUGA LAKE WATERSHED
Network News
It takes a Network to protect a watershed.
2019 i4

Hydrilla resurfaces around the lake's southern end in 2019

Jenn Tufano Grillo & Hilary Lambert
CLWN staff

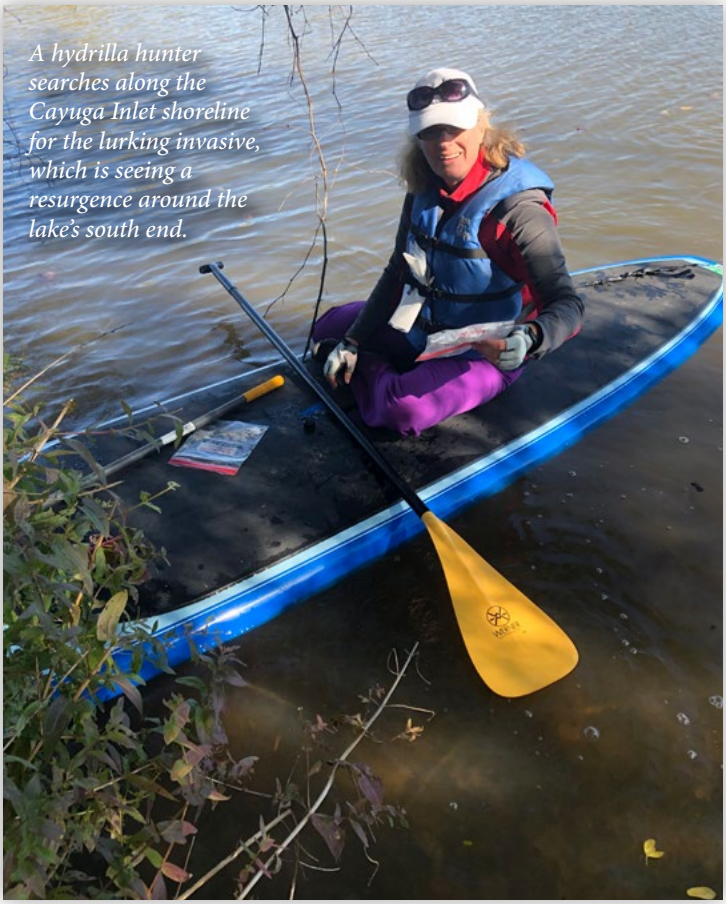
The summer and fall of 2019 brought the discovery of new hydrilla outbreaks around the southern end of Cayuga Lake. Good news is that the plants offshore of Stewart Park may have been vanquished following another round of chemical treatment by the US Army Corps of Engineers. However, just to the north on the east shore, a new-found infestation next to Cornell's Merrill Family Sailing Center was not affected by initial chemical treatment.

Farther north in Lansing, the Finger Lakes Marina's newfound but well-established infestation was treated in October by SOLitude Lake Management via teamwork between the Finger Lakes Institute and Finger Lakes PRISM (Partnership for Regional Invasive Species Management) in Geneva, and the south-end Hydrilla Task Force, which is headquartered in the Tompkins County Soil and Water Conservation District Office in Ithaca.

Continued monitoring by FLI of the dredged and chemically treated outbreak at Don's Marina in King Ferry found no further outbreaks this season. Success in reducing the outbreak along the Village of Aurora shoreline has been reported by Rich Ruby and Mike Greer, US ACE.

During October and into November, continued careful monitoring by Bob Johnson's team (Racine-Johnson Aquatic Ecologists) around the lake's south end led to the discovery of a 50 by 60 feet patch of hydrilla in the center of Cayuga Inlet's channel, between Ithaca Farmers Market and Treman Marina. Several plants were found in the southwest corner of the lake, beyond Cayuga Inlet; and several were found along the Newman Golf Course shoreline near Fall Creek's mouth in Stewart Park.

It is a disappointment to see hydrilla re-established in the areas that were affected by the first outbreaks in 2011 and, we thought, successfully eradicated via a meticulous seven-year



A hydrilla hunter searches along the Cayuga Inlet shoreline for the lurking invasive, which is seeing a resurgence around the lake's south end.

treatment and monitoring program. Further study may or may not show if these new outbreaks are due to boats bringing hydrilla back into Cayuga Inlet and Fall Creek from the newer outbreaks up the lake, or are from the germination of long-buried tubers. In any case, a lot of work this winter will be carried out to plan for next year.

It seems evident that a lakewide response team is needed, across county and municipal boundaries, bringing in all researchers, monitoring and response partners. This winter, we and partners in Ithaca and at the Finger Lakes Institute, with input from the Department of Environmental Conservation (DEC) will develop an Incident Command Response

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Cayuga Lake: the 2019 Harmful Algal Blooms Season

Nathaniel Launer *Outreach and HABs Monitoring Program Coordinator, Community Science Institute*

The Community Science Institute (CSI) is a non-profit organization based in Ithaca that operates a nationally certified water testing lab and partners with groups of volunteers from the community to monitor the water quality of Cayuga Lake and its tributary streams. Two years of monitoring harmful algal blooms (HABs) on Cayuga Lake would not have been possible without the dedicated volunteers of the Cayuga Lake HABs Monitoring Program—a program led in collaboration by the Community Science Institute (CSI), the Cayuga Lake Watershed Network (CLWN), and Discover Cayuga Lake (DCL). The purpose of the program is to provide timely hazard warnings to the users of Cayuga Lake to help manage the risks these blooms present and to develop information about cyanobacteria bloom occurrence on Cayuga Lake that can help inform long-term management strategies.

TOM CASELLA

Parent and child contemplate a Harmful Algal Bloom. We must get this threat to recreation, drinking water, and natural habitat under control. But how?

IN 2018, over 70 members of the Cayuga Lake community volunteered to monitor the lakeshore for blooms of cyanobacteria, also referred to as harmful algal blooms or HABs. In 2019 the program expanded to include over 80 volunteers now monitoring 47% of the lakeshore weekly from July through September. Importantly, this increase includes staff from all four New York State Parks around Cayuga Lake as well as staff from Camp Comstock and Camp Barton. Program volunteers also helped patrol the route of the Women Swimmin' Fundraiser for Hospicare to ensure that swimmers were safe from exposure to harmful blooms, and volunteers were often among the first to alert lifeguards, local health departments, and town authorities to blooms occurring on public shorelines. Additionally, our efforts to increase awareness of the risks that HABs present and the shared understanding of them was further improved by CSI's online Cayuga Lake HABs Reporting Page that featured an interactive map of bloom locations and a master table of results updated in near real time by CSI's Public Science Intern, Ilana Hill, as well as by weekly HABs Updates published by CLWN Communications Intern Jessica Bigott.

In 2019 CSI confirmed 67 cyanobacteria blooms by coordinating bloom sample collection and through certified analyses in the CSI lab. These blooms occurred on 26 days from July to early October, an increase of six days of bloom occurrence and 27 blooms over 2018. However, a lack of historical data and a continually expanding monitoring program make it difficult to tell if blooms are really increasing on Cayuga Lake. Of interest, the pattern of when and where blooms occurred on Cayuga Lake was observed again in 2019. Blooms that occurred in July were dominated by the cyanobacteria *Dolichospermum* with generally low concentrations of microcystin toxin. Blooms that occurred in late August through early October were dominated by *Microcystis* and all had concentrations of microcystin that exceeded all safe guidance values for drinking water and recreation used by New York State. All 28 blooms that had high concentrations of toxins in 2019 occurred in the northern end of Cayuga Lake, a pattern that was first observed in 2018, but became much more distinct this year. These findings are helping to further our understanding of blooms on Cayuga Lake and strategies that can be used to manage them. An in-depth review of two years of monitoring blooms further detailing our findings has been published in the fall 2019 edition of CSI's *Water Bulletin*. An electronic edition of this newsletter is available on CSI's website at www.communityscience.org.

An update on the work of CLEAN—*Cayuga Lake Environmental Action Now*

Stephanie Redmond *CLEAN Program Manager/Environmental Researcher*

Below Cayuga Lake at a depth of 2,200 feet lies a maze of mining tunnels operated by Cargill Salt Mine. The salt mine began over 100 years ago, however most of the expansion under the lake has occurred in the past decade. In 2016, a group of local residents grew concerned over the environmental risk the salt mine poses on Cayuga Lake and the surrounding aquifer after Cargill announced the plan to drill an access shaft, Shaft #4, in north Lansing.

The shaft would allow the expansion of the mine northward under the lake. However, the strong limestone that helps prevent the lake from hydraulically connecting with the mine is thinner due to glacial gouging in the last ice age on the northern end of Cayuga Lake, increasing the chance of collapse as the mine travels northward. The residents formed Cayuga Lake Environmental Action Now (CLEAN) to address the lack of oversight of Cargill Salt Mine by the DEC and lobby for stronger water protections.

Since 2016, CLEAN has expanded to conduct water quality research and address other risks to Cayuga Lake. CLEAN is currently conducting a well study for residents surrounding Shaft #4 as there is concern the drilling will affect the drinking water of the surrounding aquifer. Additionally, CLEAN is in the process of launching a subsidence study for properties surrounding the mine. Cargill's subsidence data appears willfully flawed, with missing monuments and inconsistent records.

CLEAN researchers have been monitoring water quality on Cayuga Lake with a Eureka Manta+35 Water Probe which records lake water quality measures such as pH, temperature, conductivity, depth, dissolved oxygen, turbidity, sodium, chloride, chlorophyll a, and cyanobacteria. Gathering baseline water quality data for Cayuga Lake makes it possible to begin to predict when harmful algal blooms are likely to occur and develop action plans.

As an independent advocacy group working to protect Cayuga Lake, CLEAN is actively involved in a campaign to clean up the coal ash landfill at Cayuga Power and urge the DEC to address concerns that leachate from Heorot Energy's coal ash landfill could be affecting groundwater and water quality of the lake.

Please visit www.cleancayugalake.org to learn more about current campaigns CLEAN is working on. There is a link on the website for property owners surrounding the mine to sign up for the subsidence study. Also, please sign the petition urging the DEC to require cleanup of the coal ash landfill at Cayuga Power. Working with researchers, local environmental groups, and a legal team, CLEAN is addressing water quality issues on Cayuga Lake and working to hold industry polluters accountable.

Climate Coping Book Discussion

We are organizing a get-together at the Lansing Public Library in January to discuss *The World Without Us* by Alan Weisman. This book provides an interesting frame for examining our feelings about how humans are changing our ecosystems and atmosphere. The author asks: What would happen if humans were to suddenly, en masse, disappear from the earth?

This book provides an interesting frame for examining our feelings about how humans are changing our ecosystems and atmosphere.

We'll pick a couple of chapters for our initial focus, such as "Polymers are Forever" and "Wings Without Us". Some of Weisman's findings are chilling, while others give grounds for hope that our precious planet Earth can regenerate itself if we only get out of the way. If interest is sufficient, we can hold a parallel discussion on the northwest end of the lake and/or set up subsequent meetings by Zoom, to bring people together from all around our lake.

Please contact Rebecca Ruggles rebeccalruggles@gmail.com and she will notify interested people about the date and time during the second half of January 2020. Rebecca spoke about climate change emotions at our fall conference in Ithaca. She lives by the lake near Aurora, and works with the Interfaith Center for Action and Healing.

Four Seneca County farms slated for erosion and sediment control projects

Improving Cayuga Lake water quality

Erin Peruzzini *District Manager, Seneca County Soil & Water Conservation District*

The Seneca County Soil & Water Conservation District has been awarded $40,000 through an Erosion and Sediment Control Implementation Grant in the Genesee River and Finger Lakes Watershed. These funds are sourced from the New York State Department of Agriculture and Markets, and the NYS Soil & Water Conservation Committee. This opportunity is designed to improve the water quality of Lake Ontario and to reduce the impacts of harmful algal blooms in the Finger Lakes. With this grant award, the Seneca County SWCD will be working with four local farms to implement projects that will reduce erosion, sediment and associated nutrients from entering our local waterways.

Two of these on-farm projects will be located in the Cayuga-Seneca Canal Watershed, which will include a diversion, two grassed waterways, and an underground outlet. The other two on-farm projects will be located in the Cayuga Lake Watershed, which will consist of two diversions, and a water and sediment control basin. These projects will work to slow down water running across farm fields, capture sediment and nutrients from flowing into our local waterways and protect the land from erosion and future damage.

These Best Management Practices are planned for the 2020 construction season. This funding opportunity is directly aligned with the NYS Department of Agriculture and Market's goal to prioritize Ecosystem-Based Management in the Genesee River and Finger Lakes Watershed. If you have any questions about these upcoming projects, please call the Seneca County SWCD District Manager, Erin Peruzzini at (315) 568-4366.

These photos show current erosion on Seneca County farmland. With the funding from Ag & Markets Erosion and Sediment Control Implementation Grants, the Seneca County SWCD will be able to implement on-farm projects to fix these erosion issues and implement long-term projects that will protect our local water quality.

PHOTOS SC SWCD

Hydrilla resurfaces around the lake's southern end in 2019 *continued from cover*

structure lakewide for better information flow and public communications, with a call to all lakeside municipalities to help. Finding hydrilla early is the best option - we are working hard to assure that happens.

The Network is also widening our Hydrilla Hunters program to recruit lake rakers to monitor specific shoreline segments, as the HABs program has so successfully done (see Nate Launer's article, page 2). During October and November, six people around the southern end of the lake checked offshore of their shoreline area by tossing in lake rakes and checking what they pulled in. So far - no hydrilla. We will expand this program in 2020, so if you are interested—we have rakes, if you have the commitment to check a shoreline stretch regularly from September to November.

We also continued our "Dave's Team" program of installing and maintaining hydrilla information box sites around the lake. Jenn Tufano Grillo took over as Hydrilla Programs Manager in early 2019, and her volunteer team successfully maintained over 70 information sites around Cayuga Lake, dispensing DEC and CLWN Hydrilla information sheets to hundreds of boaters, recreationists, and other visitors. The boxes are emptied and stored for the winter months.

In early 2019, the CLWN partnered with the Finger Lakes Institute (FLI) of Hobart and William Smith Colleges, and two FLI employees, Jared Bedient and Emelia Yost, took over monitoring and refilling 14 sites on the southeast and southwest ends of Cayuga Lake. We are grateful for FLI's partnership and expertise, and hope to continue working with them in 2020.

December 2019

Dear Friends,

We invite you to renew, join, or give a gift membership today for 2020!

In today's toxic political climate, we need to focus on ***local vigilance*** and ***action*** to safeguard and protect Cayuga Lake and its tributaries. The Cayuga Lake Watershed Network (CLWN) is working with you to ***ensure that Cayuga Lake remains a healthy, valuable resource for generations to come***.

In 2019, our members' support enabled CLWN to maintain and enhance programs that to successfully combat threats to the lake—***our response to Harmful Algal Blooms (HABs) being just one key effort in 2019***.

We collaborated with partners and agencies in the region; facilitated the HABs work of our partners and local governments; educated the public about how land use and climate change have impacted HABs; and mobilized over 100 members and other volunteers who collected suspect water samples for scientific assessment.

City of Ithaca Reservoir on Six Mile Creek

Our HABs efforts will continue in 2020 along with many other activities that help safeguard the lake; these include community conferences, Embrace the Lake cleanups, volunteer monitoring to help eradicate aquatic and land-based invasive species that contribute to lake degradation, and more.

With best wishes and deep gratitude,

Hilary

Hilary Lambert, *Steward and Executive Director*

Your membership
***and* support *have a* big impact**
on* our success *in* protecting *our lake and creeks.

Please use the membership form on page 6 to join or renew for 2020.
You can also join or donate at our website www.cayugalake.org. ***Thanks!***

The Dave Morehouse Award
Cayuga Lake Watershed Network

Established Spring 2003

Dave Morehouse exemplified dedication, leadership and action. Throughout his life, he worked as an individual and with groups, usually in leadership positions, to protect this lake that he loved. A pioneer and visionary, Dave became actively involved in protecting the Finger Lakes long before doing so was popular. His passing in the summer of 2002 was a great loss. Dave worked to protect Cayuga Lake including serving as a founding member of the two organizations that sponsor this award, the Cayuga Lake Watershed Network and the Cayuga Lake Watershed Intermunicipal Organization.

Dave's wife Claire Morehouse and family were centrally involved in the selection of Bill Ebert as the 2019 award recipient. Clare was especially pleased that Bill's work focused first on the northwest shore of Cayuga Lake, Dave's family's home turf. Following are her words about Dave.

"The man was born into his boat-building family, who knew the lake the way most of us know our front yards, and grew up on the north west shore of Cayuga Lake. He practically never left his lake. He would tell of sailing his own small ice boat across to the opposite shore and of how he and his sisters ice skated a mile to their one-room school house at Bridgeport. He swam, fished and hunted here, and could back a sailboat up under full sail.

"David graduated from Mynderse Academy in Seneca Falls and earned his BS from Cornell in freshwater biology. After serving in the United States Army for two years in Korea, he spent an additional two years away completing an MBA degree from the University of Arizona. Before leaving for Arizona, he had formed the Cayuga Lake Preservation Association, and returned to nurture that organization while managing Hibiscus Harbor at Union Springs. That was the first of the lake protection organizations that were the result of his passion for keeping Cayuga clean. Eventually that original organization morphed into those continuing his work today.

Dave Morehouse in his heyday, not far from Cayuga Lake.

"David was a man, with a big laugh, who enjoyed people, and

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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.

❍ $10 Student/Senior ❍ $25 Individual ❍ $35 Family ❍ $50 Organization/Agency ❍ $50 Business/Farm ❍ $100 Headwaters Donor ❍ $250 Lake Sponsor ❍ $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.

2019 Fall Community Conference
Bill Ebert, 2019 Dave Morehouse Awardee

Hilary Lambert *Steward/Executive Director, Cayuga Lake Watershed Network*

The Network offers two community conferences each year. In spring, we meet at the lake's north end to learn about water issues of concern there. Our well-attended fall 2019 south-end meeting was held on November 2 in Ithaca's First Unitarian Society Annex.

Along with lavish refreshments and great speakers, there were table displays from the Network, CLEAN (Cayuga Lake Environmental Action Now), and the Tompkins County EMC (Environmental Management Council). We also presented the 2019 David Morehouse Award to an outstanding long-time advocate for Cayuga Lake.

Our speakers tackled a wide range of water quality and quantity issues. Thank you to Rebecca Ruggles of the Interfaith Center for Action & Healing for her moving presentation "Dealing with climate change emotions." Please see the announcement on page 3 about the formation of a climate coping book group, to be facilitated by Rebecca and others. Roxy Johnston, City of Ithaca, updated the audience via "An overview of water issues at the south end of Cayuga Lake." Thank you Nate Launer for providing a first-glimpse look at the 2019 Harmful Algal Blooms monitoring and analysis work that CSI does around Cayuga Lake. See his article in this issue. Hilary Lambert spoke about "Harmful Algal Blooms—nationwide trends in 2019." Watch for an article in our next issue. Contact steward@cayugalake.org for a copy of the handout, with links to what's happening with HABs nationwide.

Bill Ebert received the 2019 David Morehouse Award.

During the meeting, the Network was pleased to announce that Bill Ebert is the Network's 2019 recipient of the Dave Morehouse Award. Bill and Jane Ebert are long-time residents of Cayuga Lake's northwest shoreline. Many years ago, Bill grew concerned about the quality of the water flowing into the lake from Canoga and Burroughs creeks and other nearby small creeks on the lake's northwest shore in Seneca County. With advice from the Network and a grant from the Delevan Foundation, Bill and neighbors launched the Canoga Shoreliners, trained by the Community Science Institute (CSI) to carry out regular water quality monitoring work on these creeks. They were soon joined by the Yawger-Great Gully monitoring group on the northeast shoreline.

The several years of data, publicly available at CSI's website, indicate higher nutrient pollution runoff into the lake around the north end than from the southern creeks, probably tied to the farming that dominates the northern two-thirds of the watershed. Presentations by CSI's Steve Penningroth and Nate Launer (available at CSI's website) point to the emerging significance of this new research.

Bill and neighbor Tom Casella also collect data for the NYS Department of Environmental Conservation's CSLAP (Citizens Statewide Lake Assessment Program), and the Finger Lakes PRISM (Partnership for Regional Invasive Species Management)'s Macrophytes Survey Program. They are part of the Harmful Algal Blooms Harriers (CSI, CLWN, others) team.

In early 2019, as a Board member of the Network, Bill established our Water Quality Committee. In consultation with Tony Prestigiacomo (Finger Lakes Hub, DEC), Lisa Cleckner (Finger Lakes Institute) and others, Bill developed a stormwater sampling plan for the northern creeks. With funding from donors and other sources and a top-notch volunteer team, this plan will be implemented in 2020. The goal is to get a detailed and accurate measure of nutrients flowing into the lake during storm events, to more precisely determine the pollution contributions coming from farm runoff. Bill's relentless drive to improve the lake's water quality, along with his community organizing skills, fundraising zeal, and implacable, smiling determination, all made him a great choice for the 2019 Dave Morehouse Award. Please see the accompanying article about this long-established award.

The Dave Morehouse Award Cayuga Lake Watershed Network *continued from page 6*

whose presence was always known. He made things happen at the local and state levels. He initiated the national movement to recognize aquaculture as agriculture while he continued to develop the Morehouse Bait Farm which his father had begun. He was a true environmentalist. Most of all, he was kind."

The Cayuga Lake Intermunicipal Organization and the Cayuga Lake Watershed Network together created the Dave Morehouse Award in 2003 to honor his contributions and to recognize others who are making a difference to protect our magnificent water resources across the Cayuga Lake watershed.

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.

PO Box 348
Aurora, NY 13026

Current Resident

- **Educate**
- **Advocate**
- **Protect**

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Photographs by Hilary Lambert unless otherwise noted.

The Cayuga Lake Watershed Network thanks Leigh Dezelan of Dezelan Dezign and Pioneer Printing of Lodi for newsletter production excellence.

Upcoming Events

Check our website ***www.cayugalake.org*** *& Facebook page for the latest!*

Climate Coping Book Discussion—Please see page 3 for our invitation to join us at a meeting in January 2020 for our first book group discussion! More to follow. No charge—free and open to the public.

Hemlock Wooly Adelgid—We are working with the NYS Hemlock Initiative at Cornell University to offer an early springtime workshop on surveying for Hemlock Wooly Adelgid (HWA) from your boat/watercraft. The best time of year for boat surveys is when hemlocks have their bright, lime green new buds during the late spring and early summer (typically end of May through June). This is the time of year when it becomes quite obvious which hemlocks are not able to put on new growth. HWA is an aphid-like pest that saps the life out of our beautiful and ecologically important hemlock trees, resulting in increased soil and gorge erosion and warmer creek and lake waters. If you are interested in becoming a Cayuga Lake volunteer for this effort, please contact Hilary at steward@cayugalake.org for time and place. The good news is that HWA can be successfully treated and controlled.

Embrace the Lake! Winter is a great time for your community, church group, or Scout troop to plan for a trash cleanup next spring. Do you have a roadside/ditch, creek, stream or lakefront area with an accumulation of trash, that is polluting our waterways (ditches are waterways too)? Please contact Hilary at steward@cayugalake.org or Jenn at programs@cayugalake.org to discuss location, arrangements, dates. Mid-March to late May is the best time period, before plants grow up and hide the trash.

We provide free posters, gloves, bags; and can loan your group trash grabbers, reflector vests, and helmets if needed. In some municipalities we can arrange to have the trash picked up afterwards.