CAYUGA LAKE WATERSHED

Network News

It takes a Network to protect a watershed.

2015 i1

Attention all watershed municipalities! Cayuga Lake's Watershed Plan to be Updated

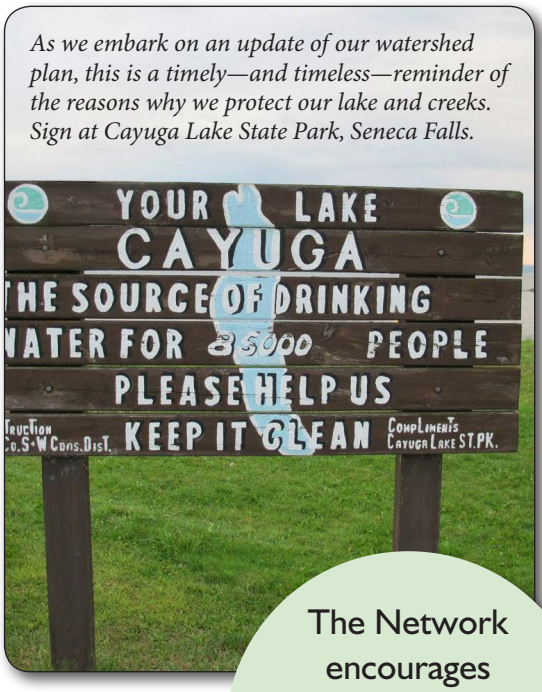
Hilary Lambert, steward

Throughout 2015 and into 2016, the Network is teamed with the watershed's Intermunicipal Organization (IO) and numerous others to update the Cayuga Lake Watershed Restoration and Protection Plan (RPP).

The original RPP was completed in 2001, the result of a watershed-wide process that drew together town and village officials, local and regional agencies, experts and local residents via meetings and presentations. This group developed a long-range visionary plan, harnessing the energy of the lake's 45 municipalities to evaluate the condition of Cayuga Lake and its streams, and formulate protection strategies.

As a result of the original plan, the IO has been awarded six rounds of funding from the NYS Department of State totaling nearly $300,000 for projects devoted to streambank stabilization, habitat restoration, and flood control. In addition, the IO supports public engagement and youth education through the Cayuga Lake Floating Classroom, which provides scholarships, lake access, STEM enrichment cruises and "Trout in the Classroom" programs for over 2,500 students annually.

Over the past several years, IO leader Darby Kiley and others obtained state funding for a plan update. Thanks to Darby's tenacity and long-term support by Barb Stewart of Interlaken, Lynn Leopold of Lansing, Roxy Johnston of Ithaca, Deb Grantham and the Network, Bill Foster of the Floating Classroom, Herb Engman and Rich De Paulo of the Town of Ithaca and others, the RPP is being updated and the IO renewed under new leadership by Tee-Ann Hunter of Ithaca.



As we embark on an update of our watershed plan, this is a timely—and timeless—reminder of the reasons why we protect our lake and creeks. Sign at Cayuga Lake State Park, Seneca Falls.

The Network encourages watershed residents to support municipal participation in this process.

Old and new issues and concerns

With funding from the NY Department of State and support by the Town of Ithaca, the Network's steward, Hilary Lambert, is coordinating the 16-month update process. Following a kickoff meeting early in 2015, Lambert and IO members are developing a public participation plan for the watershed's municipalities, counties and residents, and seeking qualified members for committees to update the watershed vision and goals, plan outcomes, and to review and update the original RPP's sections about the state of the lake.

These include Water Quality Status; Water Quality Issues and Areas of Concern; Strategies, Recommendations & Management Options; Public Participation; Coordination, Collaboration, and Partnerships; Watershed Education; Agricultural Practices; Stormwater Management & Erosion Control; Wastewater Systems Management; Hazardous Waste Management; Monitoring & Assessment; Wetland, Shoreline & Riparian Corridor Management; Forestry and Silviculture Management; Regulatory Management.

Times have changed since the RPP was last partially updated in 2004. Much of our work,

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Emerging Pollutants: Microbeads

Cody Primmer, Wells College Intern Spring 2015 Photos & links at www.cayugalake.org>Resources>Issues

Plastics pollution is a huge issue in our oceans and has a directly negative effect on our environment. When we think of pollution from plastic, we usually think first of larger items such as plastic bottles, wrapping films (i.e., candy wrappers), grocery bags etc. Other than the obvious fact that all of these items contain some percentage of plastic, they all share one more common characteristic. They are all visible to the naked eye. Now, what if there was a type of plastic that could go undetected by the human eye, but was able to cause just as much, if not more harm than larger plastics?

Unfortunately, that "what if" statement is the sad truth, as demonstrated by members of the group Plastic Tides. Ithaca locals and Plastic Tides members Christian Shaw and Gordon Middleton took on the task of increasing knowledge of the danger facing our water close to home. I recently got the chance to ask the guys at Plastic Tides a couple of questions regarding their work on the topic of "Microbeads."

To bring more attention to the problem of microbeads, last winter Shaw and Middleton took to their paddleboards and set out on an eleven day tour of Cayuga Lake, Seneca Lake, Oneida Lake and the Erie Canal to collect water samples that would be tested for microbeads, small pieces of plastic between .3mm-.5mm in diameter. These are used in cosmetic products such as face-wash exfoliates. Companies have been using plastic beads because they are cost effective and can be customized by the manufacturer.

From the samples taken on their tour, evidence of the microbeads was indeed found in our waters. Microbeads are able to enter our waterways through simply being flushed down the drain by consumers. Due to the small size of microbeads they are able to go through wastewater treatment plants undetected and untreated. Wastewater treatment plants generally filter water using screens that are either coarse (6mm) or fine (1.5mm-6mm). As a result microbeads are able exit these plants through the effluent flow and enter into streams, lakes, etc. Another major source of this pollution is from municipal wastewater in leach fields (private septic) where microbeads enter directly into the ground onsite. It is still unclear how they travel in groundwater.

Risks

According to the guys at Plastic Tides, the risks associated with microbeads are "Fairly undocumented at this point." They continue, "we know they [microbeads] accumulate pollutants on their surface and we know fish and other animals are eating them…There is no way they can be good for our environment. We think they should be re-named "toxic-balls" because that is what they truly are."

As for the risk of drinking water contamination, water plant filtration measures are more stringent and thus the risk is low, but has not been studied specifically. However, Plastic Tides asserts that the risk is there, and suggests that those with their own water systems along the lake could be at a higher risk of accidentally ingesting microbeads.

Jack Rueckheim, Bolton Point Municipal Water System General Manager, told the Ithaca Journal, "As long as all of the normal treatment processes are effective, this risk is pretty small." Regardless of whether the risk is high or low, microbeads are a huge concern for water pollution. According to the results from the water samples taken on the paddleboard tour, on average there are 15,000 micro-beads per square kilometer.

Research

Dr. Sherri Mason, Professor of Chemistry, SUNY Fredonia, is "poised at the forefront of research on plastic pollution within freshwater ecosystems." Working with the 5 Gyres Institute, Dr. Mason has "found plastic particles within all 5 of the Great Lakes. The counts obtained, especially those within Lakes Erie and Ontario, rival those within the world's ocean. Even further, what surprised us the most is the size of the particles we found. To date ~70% of the plastic we skim off the surface of the Great Lakes is between one third and one millimeter in diameter. Tiny," according to her web page (see Additional Information, below).

The best way to prevent microbeads from entering our water system is to ban them from consumer products immediately. Based on the work that Plastic Tides and other similar organizations have done in regards to plastic pollution in our waters, NYS Attorney General Eric T. Schneiderman has proposed legislation banning plastic microbeads in commonly used cosmetic products. Many natural alternatives can be used instead, such as almond shells, walnut shells, coffee grounds, etc. Please see Additional Information below for more about Schneiderman's and others' findings.

Plastics Tides' cold-weather paddleboard tour has helped bring awareness to the microbead issue, and if you're confused as to why they decided to travel in frigid temperatures, co-founder Christian Shaw said, "People wouldn't take as much notice of people paddleboarding the Erie Canal in July." Plastic Tides plans on continuing their research this summer on Cayuga Lake, where

continued on back cover

Cayuga Lake Watershed Network

170 Main St., PO Box 348
Aurora, NY 13026
www.cayugalake.org
Office. 607-319-0475

OFFICE HOURS:
By appointment.
Please contact
steward@cayugalake.org
to arrange.

STAFF: Hilary Lambert, Steward
steward@cayugalake.org
Cody Primmer, Spring 2015 Intern
Newsletter Advisory Committee: Michael Duttweiler, John Mawdsley, Niamh O'Leary

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

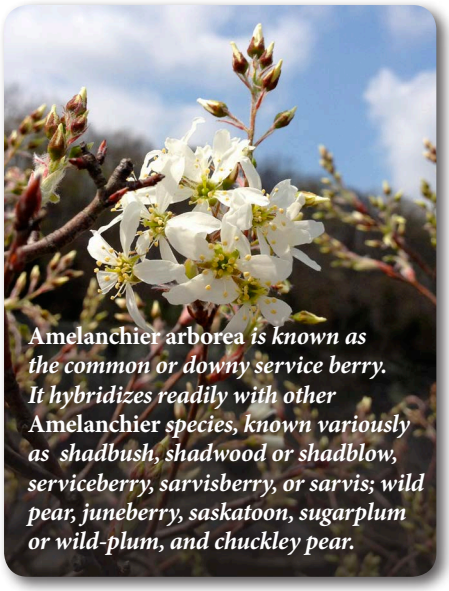
Native Invasion

Maggie Passmore, environmental scientist, retired USEPA, and fellow traveler on Planet Earth

"The best time to plant a tree was 20 years ago. The second best time is now." —Chinese Proverb

When we moved back to the Finger Lakes in January 2014, we bought a newer house on three acres, that had been built on the edge of a field, on the west side of Cayuga Lake. Elderly but stately sugar maples dominate the hedgerow behind the house, on the western side of our three acre lot. These maples were planted sometime after the Civil War to define the boundary of an old cemetery. Several smaller Norway spruce were planted only a few years ago on the southern side, and offer some privacy between the house and the road. A few locust trees have volunteered and provide modest cover around the house. The remainder of the property to the north and east is abandoned field, which is quickly being taken over by goldenrod, various species of blackberry, and locust trees.

I am a fan of ecosystems and therefore I like native plants. Native insects and birds evolved with native plants and the long evolutionary relationship between them contributes to an ecosystem that functions well, not only to their benefit, but also to human benefit, like providing natural food for pollinators at critical times during the year, so pollinators are around when we need them. Non-native plants that evolved on another continent, in a different ecosystem, do not provide the food and habitat needs of our native wildlife.



Amelanchier arborea *is known as the common or downy service berry. It hybridizes readily with other* **Amelanchier** *species, known variously as shadbush, shadwood or shadblow, serviceberry, sarvisberry, or sarvis; wild pear, juneberry, saskatoon, sugarplum or wild-plum, and chuckley pear.*

Native plants thrive in their native ecosystem and if sited properly will contribute to protecting and improving water quality on your property for years, which in turn will protect Cayuga Lake. Native plants that are growing well in an appropriate spot will prevent topsoil and stream bank erosion, absorb and sequester nutrients from ground water, and create excellent protective riparian buffers for streams, wetlands and lakes.

I wanted to plant native trees and shrubs that would provide cover and food for birds and other native wildlife, have blossoms in spring, fruits in the summer, and colorful foliage in fall, and provide more privacy for the two humans inhabiting the three acres as well. I also wanted to reduce the amount of lawn around the house and replace it with a diverse patchwork of plants including ground cover, understory, and eventually, more mature overstory.

An Internet search for native plants turned up White Oak Nursery in Canandaigua. The mission of White Oak Nursery was an excellent match to my beliefs and intentions—"Plants in our landscapes should serve a dual purpose. Plants should not only delight and beautify our lives and yards but they should also serve their age-old function of providing food and shelter for native wildlife. Only native flora can provide the essential ingredients that native wildlife needs to survive...White Oak's mission is to introduce you to the full range of landscape and ecological possibilities by using native plants and make them accessible to you and the nursery/landscape industry".

White Oak Nursery's proprietor, Jim Engel, guided me through an assessment of my three acres, using aerial photos and an onsite visit, and helped me choose native trees and shrubs that would thrive in specific areas. We planted red bud, spice bush, witch hazel, serviceberry, grey dogwood, silky dogwood, red twig dogwood, round leaf dogwood, pagoda dogwood, elderberry, nannyberry viburnum, arrowwood viburnum, cranberry viburnum, choke cherry, hop hornbeam, american hornbeam, american hazelnut, white pine, and Canaan fir.

Let's take a closer look at one of the natives: *Amelanchier arborea* or serviceberry. Amelanchier is a taxonomically diverse genus with numerous species, is native all along the temperate eastern coast of North America and has various common names. A friend of mine told me it was called serviceberry because when this tree blossomed in spring in Maine, the ground was thawed enough to bury the people who had died during the winter. It's also called shad bush in the Delaware River Basin because its blossoming coincided with shad (a native fish in the herring family) runs up the river.

Serviceberry is a small multi-stemmed tree that will colonize old fields, but is at home in the understory and can tolerate full sun to shade, moist to dry soils, and neutral to acidic soil. Serviceberry is covered in white flowers in early spring, bears sweet, edible purple berries in midsummer, has bronze foliage in the fall, and lovely grey bark in winter. I planted several serviceberry between the house and the road, where they will be nicely framed by the dark green of the conifers. I can't wait to watch them grow and enjoy them in all four seasons.

So, this spring or fall, get out there and plant a few natives of your own!

More information

- **White Oak Nursery:** www.whiteoaknursery.biz/ Contact Jim Engel jengel53@rochester.rr.com (315) 789-3509. Visits are by appointment, two days advance notice requested. The Nursery is located at 4350 Kipp Road, Canandaigua, NY.

Cayuga Lake watershed sources for native and edible plants, landscaping, and other services:

- **The Plantsmen Nursery:** www.plantsmen.com Dan Segal, owner (607) 533-7193 info@plantsmen.com. Located at 482 Peruville Road, Groton, NY 13073, the Plantsmen opens around Earth Day (April 22).
- **Edible Acres:** www.edibleacres.org Contact Sean Dembrosky (607) 342-4953 seandembrosky@gmail.com. Located just outside Trumansburg NY, Edible Acres is taking orders for spring.

Comments to DEC Requesting Public Hearing for Lansing's Power Plant

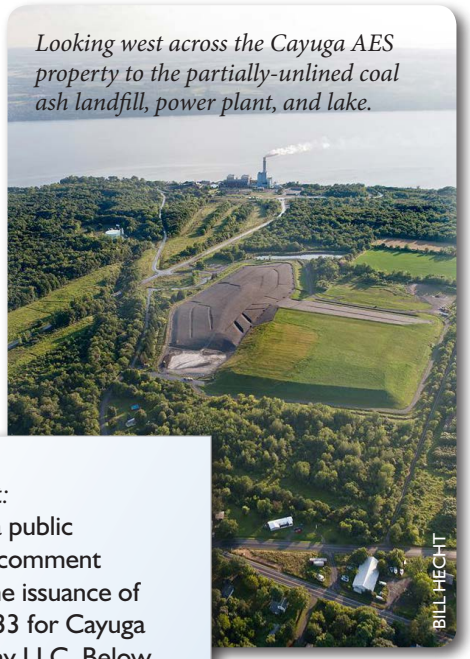
Hilary Lambert, Steward

A long-time landmark for boaters and pilots, the coal-fired power plant and its coal ash landfill on Cayuga Lake's east shore in Lansing has an uncertain future. With recent changes in ownership, it is presently referred to as Cayuga AES. Will the plant be shut down, or "repowered" with fracked natural gas? Many people are involved in this issue, and in the larger debate on the role of fossil fuels versus renewable energy for our region's future.

Water quality concerns

With our mission to protect Cayuga Lake and its creeks, the Network has focused on water quality, downslope and offshore of the plant and landfill. Starting in 2014, Network members and others—self-termed the Cayuga AES Water Quality Task Force—began reviewing the decades of correspondence, tests, permits, and monitoring reports on record about this plant at NYS DEC's Syracuse office, and met with staff there.

Cayuga AES has to regularly renew permits with the state that allow it to operate. These include a discharge (SPDES) permit, which sets limits on the types and amounts of pollutants it may discharge to the lake. Pollutants may be found in the fluids and solids produced by the plant's operations, and in the leachate produced by the plant's coal ash landfill, on the slope above the plant.



Looking west across the Cayuga AES property to the partially-unlined coal ash landfill, power plant, and lake.

Dear Ms. Czubernat:
I write to request a public hearing and public comment period regarding the issuance of SPDES#NY0001333 for Cayuga Operating Company LLC. Below are significant and substantive reasons for this request. I write on behalf of the Cayuga Lake Watershed Network (CLWN), a long-established nonprofit organization tasked with educating about and protecting Cayuga Lake and its watershed. A major focus for our organization is maintaining and improving the water quality of the lake and creeks that drain to it.

The plant's 5-year SPDES permit was up for renewal in December 2014. The state decided against a public comment period and hearing, but invited substantive comments on why these should take place. The following comments were submitted in January 2015 by the Network's Steward Hilary Lambert on behalf of the Cayuga Lake Watershed Network, to DEC's environmental program specialist Lindy Sue Czubernat at the Division of Environmental Permits in Albany, NY.

Comment letters were also submitted by the Tompkins County Environmental Management Council, Earthjustice and Sierra Club, DRAC (Dryden Resource Awareness Coalition), Global Environmental LLC, and numerous individuals. These are available for viewing at our website under Issues, at our Cayuga AES information page www.cayugalake.org/cayuga-aes-power-plant.html

A technical review of this site is overdue

NYS DEC announced on January 14, 2015 that a new 5-year SPDES permit for Cayuga AES would be issued "as-is," without public comment or technical review. We suggest that there is sufficient evidence of potential threat to the Cayuga Lake watershed that a thorough technical review, with public comment opportunity, is called for.

This power plant has been in operation since 1955 (Unit 1) and 1958 (Unit 2). Coal combustion residue (CCR) has been accumulating since then in several locations, including the partially-unlined landfill above Cayuga Lake. Pollution problems were evident in the record when Cayuga AES/COC received their previous permit. A technical review is needed to ascertain if those problems have been solved, and if contributing practices have been improved and upgraded to modern standards.

Insufficient funds have been set aside for long-term site monitoring and mitigation

According to EPA reports, CCR landfills can have adverse off-site impacts either for hundreds to a thousand years (EPA 2010), or fifty to seventy-five years (EPA 2014). Either way, the sum of money presently budgeted for long-term monitoring and drinking water protection at the COC site will last only thirty years, at the outside. A technical review would reveal the full scope of the long-term problem and strengthen arguments for improved financial protection.

Summary of problems noted via data and report review

The first-built unit of the CCR landfill is unlined. Readings at downslope monitoring wells indicate that chemical toxins are moving downslope toward the lake. COC allows portions of the active landfill to remain uncovered, adding to stormwater runoff of toxins into the landfill's leachate collection system.

Future plans for the site include piling a second landfill layer atop the (capped but) unlined area. A technical review is needed to evaluate present pollution problems here, and mitigate now for the future.

Also of concern is the massive uncovered coal pile at the south end of the site, and trains carrying coal along the lakeshore


ROBERT DUCKETT

Looking south along the wintry east shore at the Cayuga AES power plant.

to the plant in rail cars open to the elements. Discolored erosion paths are visible between the permitted site and the lake, indicating that stormwater may be carrying unknown pollutants to the lake. A technical review could measure and mitigate this apparent problem, and that of coal particles draining out of rail cars into the lake.

Arsenic, heavy metals: EPA has lowered the allowable limits for these substances in drinking water. A technical review would ascertain if COC/Cayuga AES is using the most recent standards when monitoring and reporting on landfill leachate, and could lead to reduction of these emissions into the lake, a major drinking water and recreational resource.

According to monthly and annual reports, and comments made during a meeting with DEC last fall, leachate collected from the landfill is augmented with clean stormwater runoff, tested for toxic concentrations in the leachate collection system, and discharged into the lake. Sludge dredged from the collection system and impoundment are re-dumped into the open landfill.

All other existing solid waste landfills in Central New York collect and treat or remove leachate for proper treatment. Why does NYSDEC allow this facility to mix uncontaminated stormwater runoff with the leachate prior to discharging into Cayuga Lake? Why is leachate sludge re-dumped onto the landfill? A technical review could ascertain if any of these practices are out of date and out of compliance with modern-day standards and requirements.

A technical review is needed to ascertain if Cayuga AES/COC is over-exposing landfill liners to air and sunlight, which weaken their protective capacity. Based on EPA's varying estimates of how long a CCR landfill may actively pollute, these all-important liners need to last 75 to 1000 years. A review will help lead to upgrades in sub-par practices and materials.

Selenium and boron are known contaminants at CCR sites, and have been noted as present in past reports at Cayuga AES/COC. Are these substances being tested for regularly here, and if not, why not? A review and public comment period could answer these and related questions.

A review of past and recent monthly and annual reports yields a number of issues that suggest DEC might be failing in its oversight capacity: The record indicates long-term problems with manholes; sloppy and apparently inconsistent record-keeping; failure to follow up on problems noted earlier; and others. The public record gives little indication that corrective actions have been taken in these and other matters. A technical review—and public input detailing these record-keeping problems—would help strengthen DEC's ability to provide effective oversight here. Monitoring and reporting requirements might need to be upgraded and modernized, to reassure the public.

Climate change and extreme weather events: A technical review would indicate whether Cayuga AES/COC's procedures are in compliance with new EPA and DEC standards in the face of rapid climate change. Are the landfill's leachate/stormwater collection and disposal systems ready to handle the extreme precipitation and weather events, evident now and predicted to intensify?

Potential hazards from unlined CCR waste management units: EPA has recently re-assessed upward the hazards from units such as the original unlined landfill area at this site. Is COC using the latest standards and practices to manage and mitigate this unlined area? What is being done about the several local coal-ash dumps that pre-date this landfill? A technical review is overdue and needed here.

Inappropriate setting for a landfill: The environmental setting is inappropriate for a landfill, adding to present and future site challenges. The present CCR is located on steeply-sloping land above fractured bedrock within 1200 yards of the lake. While the potential long-term environmental consequences of this choice might not have been anticipated in the 1970s, there have been many subsequent opportunities during permit renewal periods for DEC and COC to reduce risks to water quality and the public health. A technical review and public input would get this overdue process started.

Cayuga AES/COC has had Clean Water Act violations in 10 of the past 12 quarters, including two of significance. This power plant is the largest point source for pollution on Cayuga Lake. The Clean Water Act mandates that facilities be monitored and brought into compliance. A technical review and public comment process could lead to a significant improvement in COC's environmental management systems to reduce the quantity and quality of excessive discharges, and begin to solve the other problems listed above.

Technical review and comment period requested

Local residents, community leaders and members of the Cayuga Lake Watershed Network have researched many of the tens of thousands of pages of reports and documentation of DEC's decades of interaction with Cayuga AES/COC. We see apparent evidence of major problems at this site.

We respectfully request that NYS DEC begin to address these substantive concerns via a technical review and public comment period, prior to renewal of COC's SPDES permit. We have deep, genuine concern about the potential for the coal ash landfill and other operations at this site to have long-term adverse impacts on Cayuga Lake, a major fishery, recreational and drinking water resource. We ask that DEC perform due diligence to improve this situation, based on the facts.

New Study to Map Wetlands Across Tompkins County

During 2014, Nick Hollingshead mapped the Town of Dryden's wetlands using LiDar data (elevation data created from aircraft overflying the land) and GIS software, significantly improving accuracy over the older computer-generated wetland maps created decades ago by NY's Department of Conservation and the federal US Fish and Wildlife Service. The state and federal maps tend to significantly underestimate the number and extent of wetlands, often completely missing smaller wetlands.

In 2015 Nick is expanding the study, using the LiDar method to re-map the wetlands of Tompkins County. Again sponsored by the Cayuga Lake Watershed Network (CLWN), Hollingshead's work is supported by a generous grant from the Park Foundation and additional support from the Tompkins County legislature. The initial Dryden study was funded by the Tompkins County Soil and Water Conservation District via the Finger Lakes - Lake Ontario Watershed Protection Alliance, and in-kind match from several sources.

The main objectives of this project are to develop an accurate and current map of wetlands in Tompkins County; and deliver this new resource to local municipalities, providing support for the use of the data gathered, and encouraging adoption of local wetland-specific regulations. The ultimate goal is to protect local water quality and conserve the unique ecological services that wetlands provide.

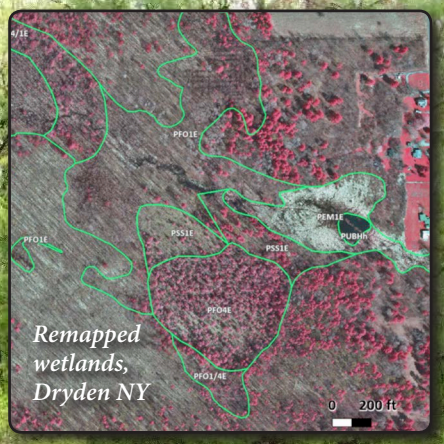
Darby Kiley, Town of Ulysses planner, sees great advantages to improved wetlands mapping: "As a local planner, it is frustrating to evaluate development projects based on outdated maps. This project is an exciting next step in a multi-year process to protect and preserve wetlands in the county."

Science advisors for this work are John Mawdsley of the CLWN's Board and Darby Kiley, both members of the Wetlands Committee of the Tompkins County Water Resources Council along with Dooley Kiefer and Tom Vawter. The initial impetus for this project came from a 2008 wetlands mapping review by the committee, which found that the available state and federal wetlands maps lack accuracy and coverage.

Wetlands: losses, values, functions

Across the United States, it is estimated that over 100 million acres of wetlands have been lost due to draining and filling. In New York State, over half of the historic wetlands have been converted for agriculture, development, and other uses. Impacts from these losses are evidenced by changes in runoff that increase the frequency and severity of flooding and sedimentation in streams and lakes. The conversion of wetlands for new development in rural areas has implications for local and downstream water quality and quantity. Additionally, climate change is bringing extreme storms that concentrate rain and snowfall into large, heavy-precipitation events. Wetland buffers are needed.

Wetlands provide a broad range of environmental benefits including nutrient uptake, floodwater retention, erosion reduction, and unique wildlife habitat. Often located between



Remapped wetlands, Dryden NY

Headwater wetlands astride the watershed divide between Cayuga and Seneca lakes.

HILARY LAMBERT

upland and aquatic areas, wetlands are also found in the many places where hydric soil (permanently or seasonally saturated by water, resulting in anaerobic conditions) supports specially adapted plant and animal communities. In the Finger Lakes region of New York, the diversity of wetland types include vernal pools, bogs, seeps, fens, marshes, river and stream edges, forested swamps, and wet meadows.

Like sponges, wetlands soak up and store the stormwater from rainstorms and melting snow. This protects downstream lands from flooding, and recharges groundwater. Stormwater is released gradually, slowing water's erosive power. Wetlands are often referred to as the kidneys of nature, because they trap and store sediment that carries pollutants. The unique soils and plant communities found in wetlands are filters, improving downstream water quality.

On a warm, damp spring evening in many parts of Tompkins County, you are greeted by a chorus of frog songs. Amphibians are just one example of life that is dependent on wetlands for survival. A variety of bird and mammal species also depend on wetlands for food and shelter, as provided by the plants that grow there and nowhere else.

Better wetlands protection is needed

As in most of New York State, in Tompkins County there are currently no local wetland-specific regulations to fill the regulatory gaps left by state and federal laws. A 2008 study entitled *Wetland Protections in Tompkins County: Existing Status, Gaps, and Future Needs* found that up to 19% of the wetlands in Tompkins County have no protection based on existing state and federal regulations. This study was funded by a Wetland Program Development Grant from the EPA, administered by the Tompkins County Soil and Water Conservation District, and overseen by the Tompkins County Water Resources Council (WRC) Wetlands Committee. In response to the findings of this study, the WRC Wetlands Committee developed a sample wetlands protection local law, approved by the WRC in 2012 and presented to municipalities for adoption.

For effective implementation of local wetland protection laws or other municipal regulations, such as site plan reviews or stormwater plans, accurate wetland maps are essential. The present wetland maps from the New York State Department of Environmental Conservation and the U.S. Fish and Wildlife Service are based primarily on visual interpretation of aerial imagery collected in the 1980s. These are outdated, incomplete, and inaccurate, particularly for the types of wetlands not protected under state and federal laws.

Nick Hollinghead's work is updating these older maps. The visual analysis of high-resolution aerial imagery remains the most viable method for efficiently mapping wetlands across large areas, such as a town, county, or larger area. Improved aerial imagery and remote sensing data, including high resolution elevation data (LiDAR) and georeferenced oblique aerial imagery, make it possible to achieve higher levels of accuracy, completeness, and detail in less time. Of particular importance for the local wetland regulations is the potential to use these modern resources to identify small wetlands, such as vernal pools, that were not previously mapped.

More information

To view the final report of the Dryden pilot study and wetlands maps comparing the new LiDar-derived maps with the older state and federal wetlands maps, go to the Network's wetlands mapping page: www.cayugalake.org>Watershed>Wetlands Mapping Project. For more information please contact Nicholas Hollingshead at nahollingshead@gmail.com.

Attention all watershed municipalities! Cayuga Lake's Watershed Plan to be Updated

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communication and governance are today conducted online. In addition to the issues listed above, those now at the forefront include climate change, invasive species, aging infrastructure, localized agriculture, natural gas and other energy issues, and the growth in renewable energy sources and their use.

Benefits to municipalities, counties—and the watershed!

The Network, IO and partners old and new encourage watershed residents to support your local municipality's participation in this process. Long-term payoffs of this renewed process for villages, towns, cities and counties include improved regional coordination of services, shared communications and knowledge, and the development of an IO staff position to help watershed communities obtain water-related funding. For this process to succeed, we will need widespread cooperation and participation across the 870-mile Cayuga Lake watershed.

Last but not least, an updated RPP and renewed IO will provide sustainable, long-term protection for the continued high quality of our streams, wetlands, creeks and lake. These beautiful, awe-inspiring, and invaluable water resources will need our continual attention and care during this era of rapid change and development.

Stay informed

Join our RPP Process Update email list by sending a request to Hilary Lambert steward@cayugalake.org or leaving a message at the Network's office number (607) 319 0475. We are updating the IO website and launching a Facebook page. The first public participation meeting will be held mid-year, along with meetings with stakeholder groups, governments and agencies.

Additional information

- **Intermunicipal Organization of the Cayuga Lake Watershed:** www.cayugawatershed.org
- **RPP (Cayuga Lake Watershed Restoration & Protection Plan):** www.cayugawatershed.org/Cayuga%20Lake/RPP/cayindex3.htm
- **Cayuga Lake Watershed Network:** www.cayugalake.org>Watershed>Watershed Plan Update Process
- **Cayuga Lake Floating Classroom:** www.floatingclassroom.net

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 communities.

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- Advocacy
- Protection

Upcoming Events

Embrace the Lake spring cleanups: Want to do a creek or lakeside cleanup? Contact steward@cayugalake.org for planning advice, trash bags, gloves, posters.

Earth Day Ithaca Voices Past, Voices Present: April 19 noon - 8pm on the 20th. The Space at Greenstar, Ithaca. Contact solkitchen1@gmail.com.

Green Homes for Cleaner Lakes workshops: April 21 & 28, 7-9pm. Tompkins County Cooperative Extension, 615 Willow Ave., Ithaca.

Hydrilla Hunting: Watch for and report hydrilla this summer and fall around the lake. Contact steward@cayugalake.org for i.d. kits, learn more at www.stophydrilla.org

Ecosystem Invaders: What's In Your Watershed? June 25, 6-8pm, Ithaca Town Hall, 215 North Tioga Street, Ithaca. With Community Science Institute.

Network Annual Meeting & Picnic: August 19, Cayuga Lake State Park. Details TBD.

CanYou Canoe Cayuga? September 19 (20th rain date). Registration opens July 1.

Sunset on Cayuga Dinner October 10 at Wells College, Aurora. Raffle & dinner tickets on sale June 1.

Permitted to Pollute: What's In Your Watershed? October 1, 6-8pm. Details TBD. With Community Science Institute.

Network Fall Conference, mid-October, south end location. Details TBD.

Watch our website & friend us on Facebook for more about these and other events.

Emerging Pollutants: Microbeads *continued from page 2*

they will be doing similar sampling, acquiring more data points to better understand the extent of the plastic pollution. Some of the work will be done in conjunction with a summer Internship/camp program at Myers Park in Lansing. You can learn more about Plastic Tides at their Facebook page.

Additional Information

- **"Unseen Threat: How Microbeads Harm New York Waters, Wildlife, Health And Environment.** 2014. Office of Eric T. Schneiderman, Attorney General of New York State.
- **Professor Sherri Mason, SUNY Fredonia:** http://www.fredonia.edu/chemistry/Faculty/Mason.asp.
- Erikson, M., S. A. Mason, S. Wilson, C. Box, A. Zellers, W. Edwards, H. Farley, and S. Amato, **'Microplastic Pollution in the Surface Waters of the Laurentian Great Lakes,'** *Marine Pollution Bulletin,* 77, 177, 2013.