For many years safety with drugs in the home focused on reading labels and preventing accidental poisoning, especially of children and pets. What to do with expired or unwanted medicines? Flushing them away was once recommended to prevent misuse, but this advice is outdated. There is mounting evidence that some active ingredients in pharmaceuticals and personal care products (PPCPs) left over after normal use or disposal persist in septic systems, during sewage treatment, during drinking water treatment, or in the environment. In turn these compounds may end up in drinking water sources (wells and surface water) and wildlife habitat.

Antibiotics, antibacterial cleaning products, contraceptives, other hormones, steroids, anticonvulsants, antidepressants, caffeine, sunscreens, fragrances, and other compounds are produced during manufacturing and used in agriculture, industry, health care facilities, and at home. They are among the larger set of substances sometimes referred to as emerging contaminants. Some of these compounds are relatively new, and some were never measured in the environment until recently. We are better able to detect these substances than in the past.

Most of these compounds occur in very low concentrations – but they may also be biologically active at very low concentrations. The combined risk of many of these compounds together in low concentrations is unknown. Some of these compounds are known or suspected endocrine disruptors: changes in development, sex organ

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ANNUAL REPORT FROM THE CHAIR

State of the Cayuga Lake Watershed Network, 2009-2010

John Mawdsley, Chair, CLWN Board of Directors

Major Activities/ Accomplishments
We started 2009 with a new Watershed Steward, Hilary Lambert, a relatively new office at Wells College, and a difficult economic climate. We had an ambitious program of work, in part funded by a Park Foundation grant, to develop our advocacy for the protection of the watershed.

Our first major new venture was “Sunset on Cayuga” in September 2009. This was an evening fundraiser dinner-dance at the LakeWatch Inn with food and music plus silent auction and raffles. We attracted almost 150 people to the event and raised money for the Network, but perhaps more important attracted new people to the event and we think improved our image. We had planned to hold the event in 2010 but may switch to a two-year cycle.

We reactivated our creek cleanups this year with a new name, Embrace the Lake. Through early summer we had eight cleanups in the Cayuga Lake Watershed – see the summer 2010 issue of Network News for a write up. “Embrace the Lake” is a good slogan and message, and we hope to continue and expand the inclusion of groups participating. These cleanups help the creeks and also give opportunities for volunteers to get out and help, which many want to do. They also help the young to get involved and become informed about the health of the creeks and ultimately the lake.

In fall 2009 and spring 2010, we held our twice-yearly public conferences on issues of concern to the watershed and its residents. The fall 2009 meeting, focused on concerns of southern-end Cayuga Lake residents, was held in Ithaca in October and was titled “Phosphorous inputs to Cayuga Lake.” This event had a number of distinguished speakers and a panel discussion. The north-end focused conference was held in April 2010 just south of Seneca Falls in Fayette on the topic, “Wetlands: They protect us, help protect them.” There were several distinguished speakers and a panel discussion. The event was well received but had a smaller audience than we had hoped. (Please read and respond to our brief Members Questionnaire in this issue.)

We also continued our “road-show” approach with numerous presentations around the lake by Bill Kappel (USGS) of his great talk, “The Ups and Downs of Cayuga Lake,” all about lake levels, their management and impact on lakeside residents, communities, economy and ecology.

We have continued to work on how to measure the health of the lake and its creeks and how to present the information to the public in an easily understood manner, using a “dashboard” approach. A class at Cornell did an outstanding job developing ideas for this approach, and we are developing these indicators tailored to the Cayuga watershed. This is a major piece of work for us but could be enormously helpful to the residents of the lake in their understanding of challenges to the lake and creeks.

Advocacy-focused, community-based projects
In 2009, we announced the change in our mission to become more involved in advocacy for a healthy watershed. The Park Foundation funded these...

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characteristics, and reproduction have been documented in aquatic life such as fish, amphibians, and invertebrates. These animals may be especially sensitive because they are exposed to contaminated water for long periods.

What you can do
Individuals can do their part to reduce the amount of PPCPs reaching the environment and potential risks for wildlife and humans. Use collection events at your local solid waste or recycling center or pharmacy. A March 6, 2010 collection event in Ithaca, sponsored by the Tompkins County Coalition for Safe Medication Disposal, collected over 1100 pounds of pills and ointments (“Pharmaceutical collection event draws hundreds,” Ithaca Journal, Mar 9, 2010, p.A3). Another collection event is set in Ithaca for October 16 – information about it and other central NY collection events are provided in the companion article, “Upcoming PPCP Disposal Events.”

Let community leaders know you are interested in such events, which need approval of the NYS Department of Health and a pharmacist and require the presence of law enforcement (for controlled substances). For needles, contact local hospitals and nursing homes for information about their sharps collection program.

### Upcoming PPCP Collection Events

The NY Department of Environmental Conservation maintains a statewide online Household Drug Collection events schedule at [http://www.dec.ny.gov/chemical/63826.html](http://www.dec.ny.gov/chemical/63826.html). Following are the scheduled disposal events in central NY State for fall 2010. Events will be announced soon for Watkins Glen and Bath.

#### SEPTEMBER 25
9 am – 1 pm: Cortland Co. Regional Training Center, 999 Rte 13, Cortland. Accepted: Household pharmaceuticals, over-the-counter drugs, including controlled substances. Not accepted: Pharmacy, veterinarian or any other pharmaceutical business waste; mercury or mercury-containing devices or sharps. Sponsor: Seven Valleys Council on Alcoholism and Substance Abuse (607) 756-8970.

10 am – 2 pm: Madison County Landfill, Buyea Rd, Lincoln. Accepted: Household pharmaceuticals, over-the-counter drugs, including controlled substances. Not accepted: Pharmacy, veterinarian or any other pharmaceutical business waste. Sponsor: Madison County Department of Solid Waste and Sanitation (315) 366-2788.

**Hours to be announced:** Wegmans, 300 Hamilton Street, Geneva. Contact pcdrc@frontiernet.net for hours of operation, what is accepted and not accepted. Sponsor: Seneca Lake Pure Waters Association http://www.senecalake.org.

#### OCTOBER 2
8 am – 1 pm: 2157 Penfield Rd., Penfield. Accepted: Household pharmaceuticals, over-the-counter drugs, including controlled substances. Not accepted: All waste will be screened for sharps and mercury containing devices. Pharmacy, veterinarian or any other pharmaceutical business waste will not be collected. For additional collection dates, go to: [http://www.monroecounty.gov/](http://www.monroecounty.gov/). Sponsors: Department of Environmental Services, Monroe Co. Sheriff Office, Fairport Police Department, East Rochester Police Dept. (585) 753-7553.

9 am – 1 pm: Town Sewer Department, 226 Phillips Rd., Webster. Accepted: Household pharmaceuticals, over-the-counter drugs, including controlled substances. Not accepted: Pharmacy, veterinarian or any other pharmaceutical business waste. Sponsor: Town of Webster Sewer Department (585) 265-0505.

#### OCTOBER 16
9 am – 3 pm: Tompkins Consolidated Area Transit (TCAT) bus garage, 737 Willow Ave (off Rte 13), Ithaca. No appointment necessary. Convenient drive-through location. Accepted: Prescription drugs including controlled substances, pills, powders, liquids, inhalers, epi-pens, non-prescription drugs, pet medicines. Not accepted: Mercury thermometers, mercurochrome or other mercury products, medical sharps, other hazardous waste. REMEMBER: Leave medications in original containers and mark out personal info. For more information in Ithaca call 211; Tompkins County Solid Waste Management Division (607) 273 6632, or go to [www.recycletompkins.org](http://www.recycletompkins.org). Sponsor: the Tompkins County Coalition for Safe Medication Disposal.
Our neighbors to the west
Seneca Lake Pure Waters Association

By Philip Cianciotto, SLPWA President

Editor’s note: In John Mawdsley’s Annual Report in this issue, he mentions that the Network has joined with other Finger Lakes organizations to form the Finger Lakes Regional Watershed Alliance. In that spirit of cooperation we present an introduction to the group working to protect that big lake to the west.

Seneca Lake Pure Waters Association (SLPWA) was formed in 1991 in order to provide a voice for this major Finger Lake by those who live in its watershed. The Mission of Seneca Lake Pure Waters Association is to promote the understanding, preservation and improvement of the water quality, natural habitat and general environmental conditions of Seneca Lake and its watershed by sponsoring or undertaking scientific research, by collecting, preserving, publishing and disseminating information concerning Seneca Lake and its watershed and by encouraging and supporting the enforcement of laws and regulations and patterns of development and technology aimed at preserving and enhancing the water quality of the lake.

The Association grew rapidly in the 1990s and early 2000s, supporting a part-time Executive Director. By 2005, the Association began to lose focus and membership dropped to the point that by 2007 the Association was in jeopardy of being dissolved. A group of existing members began a reorganization effort in 2008 and the organization was reorganized as an all-volunteer organization in 2009 with a newly elected Board of Directors and Officers. The organization has focused on being the voice of the lake and its watershed and on a number of issues that will affect its health and well-being.

In support of our Mission, SLPWA is providing funding to the Finger Lakes Institute of Hobart and William Smith Colleges for two programs. The first is a Seneca Lake Watershed educational program for use by elementary and middle school students in our watershed school districts. The program will provide a study curriculum, for use by teachers and students in these grade levels, and opportunities for field trips so that students can get out into the watershed and explore its unique characteristics. SLPWA has provided initial development money for this program and is seeking grants to expand the program and be able to offer field trips to area students.

The second program is to expand the baseline water quality testing program currently done by Finger Lakes Institute on the north end of Seneca Lake to the middle and southern portions of our 37 miles-long lake. In addition, we plan to look at tributaries of the lake to examine the water quality of the flows into the lake from various sections of the watershed. Characterization of the entire lake has never been attempted, and while testing of the northern portion may be representative, expanded testing will verify assumptions and more accurately allow us to profile Seneca Lake.

The potential for drilling for natural gas in the Marcellus Shale in our watershed has SLPWA concerned about the possible detrimental effects that drilling and the Hydraulic Fracturing process being used to extract the gas from the shale may have on the long-term water quality of Seneca Lake. Our Marcellus Shale Committee has been extremely active in communications with the NYS Department of Conservation, our elected State and Federal Officials and the Environmental Protection Agency. Our comments regarding the NYS DEC dSGEIS and the EPA study examining the effect of Hydraulic Fracturing on Drinking Water can be viewed on our website at www.senecalake.org

In the coming months SLPWA will be sponsoring a pharmaceutical collection event in Geneva with Wegmans and hopes to expand the collections so that one is conducted each year within the 5 counties of our watershed. Future plans include household hazard waste collections as well.

Our other areas of concern include phosphates entering the lake from municipal waste treatment facilities and from area residents using high-phosphate detergents and lawn fertilizers that contain phosphate. We are also concerned with a number of invasive species that have entered our lake and the potential for new ones. We are working to provide educational materials to lakeside residents about the impact these invasive species can have on the health of the lake.

SLPWA holds monthly membership meetings that are open to the public and for most of our meetings we try to focus on a particular topic of interest to members and watershed residents of the watershed. Recent topics have included Gas Drilling in the Marcellus Shale, Water Well Testing, and the Finger Lakes Museum.

SLPWA is currently working with lake and watershed associations including the Cayuga Lake Watershed Network across the publicly owned watersheds of the Finger Lakes to form the Finger Lakes Regional Watershed Alliance, in order to provide a greater voice for our regional watersheds. We invite you to visit our website at www.senecalake.org
Water Pollution Prevention Pharmaceuticals and Personal Care Products (PPCPs)  

If you cannot find a collection event, do not flush medications. To prevent misuse or ingestion by wildlife, contaminate medications with dirt, salt, ashes, or clay litter in a sealed container. Dispose of them on trash day. While landfills can leach these compounds to water, that route is much less direct than flushing.

More things you can do!

- Evaluate products before you buy them: Do you really need antibacterial soap, or will plain soap do?
- Encourage your local government or pharmacy to organize a household drug collection event.
- Drop off unwanted medications at an event.
- Follow disposal instructions from the NYS DEC at www.dontflushyourdrugs.net
- Spread the word! You can print the poster shown here from the DEC site.

Amy Galford is on the Network’s Board of Directors. She has an M.S. in Ecology and works as a Water Quality Extension Associate, Cornell University, Ithaca NY. Thanks also to stalwart Network member Judy Pipher for her assistance.

Annual Report from the Chair...  

Efforts. We focused on two issues of concern within the watershed – poorly performing septic systems and the proposed drilling and hydrofracking in the Marcellus Shale. We also decided to work with specific local communities on these topics rather than covering the entire Cayuga Lake watershed. These are models for progress and protection that we hope will be widely transferable.

We are working with a Town Board member and others in the Town of Ulysses on septic systems, focusing for the present on determining the extent of the problem along the lakeshore and creeks; and with residents of the Town of Dryden on the threat of hydrofracking, via the Dryden Resource Awareness Coalition (DRAC).

Both issues are complex and cannot be resolved in one year. We have been fortunate to receive a second grant from the Park Foundation to continue this work for two more years and to extend our community-based, problem-solving approach to a further issue and location, preferably in the northern part of the watershed; there are a number of possible issues to consider in the next year.

We have joined with other Finger Lakes lake associations to form a new combined organization, the Finger Lakes Regional Watershed Alliance, so that our impact regarding major threats, such as the Marcellus Shale drilling, invasive species, landfill siting, etc can have more weight in the decision-making that occurs at State and Federal level. The first meeting was held in May 2010 with the initial focus on hydrofracking and its threat to the water quality but there are other issues of concern to us all. We think this is an important new venture that will help our watershed.

A final word on the Marcellus Shale drilling which is undoubtedly the major threat at present to the water quality and health of the watershed. Proponents state that it would bring some much needed economic benefits to parts of the watershed. As a result our position has to involve some balance between these conflicting aspects. We are taking the position at present that we only support the drilling if the water quality can be protected adequately. To this end we submitted comments to the DEC on their draft supplemental EIS and await their revised report. We will work with the new Finger Lakes organization to continue to try to control this activity.

Changes in Personnel, including Board Members

There were no changes in Watershed Steward this year, with Hilary Lambert continuing to work half-time for us. There have been changes in Interns as students of Wells College move on and new ones work with us. We hope this contact continues and we are able to attract students from other colleges in the watershed.

There have been a number of new Board members joining us in this year – Amy Galford from Cornell University Cooperative Extension for Tompkins County, Scott Heinekamp from Wells College, Dan Hill of the Cayuga Nation and David Stillwell from US Fish and Wildlife Service for Cayuga County, and Jim Clark of Xerox Corporation for Seneca County.

Ronda Fessenden of Cayuga County completed her term and we thank her for her great help, especially in leading the organization of Sunset on Cayuga. Milene Morfei from Cayuga County had to step down due to work commitments, and Joe Cambridge has completed his term and is not standing again. We thank them all for their work with us.
NOT THIS YEAR: We will NOT be holding “Sunset on Cayuga,” our fund-raising dinner dance, during 2010. The event will return bigger and better than ever in 2011, probably in September. We are looking for a few good volunteers who enjoy pulling together this type of event. Contact steward@cayugalake.org!

OCTOBER 23: Susan Riha, Bill Kappel and Liz Moran will present on water-related challenges facing area municipal governments. The Network’s annual fall half-day free public conference will be held in Ithaca. Details to follow. Co-sponsored by the Cayuga Lake Watershed Intermunicipal Organization.

AUTUMN: The Seneca Falls Historical Society has great events coming up this fall, and the museum is open for visitors at 55 Cayuga Street. Events and hours, online: http://www.sfhistoricalsociety.org, send email to sfhs@rochester.rr.com, or call 315-568-8412.

FALL SEMESTER: Sustainable Earth, Energy, and Environmental Systems (SEEES) Fall 2010 speaker series, Cornell University, Ithaca. Theme: the interwoven challenge of energy, climate, and the environment in the human and natural world. The series is designed for college freshmen and sophomores; we invite all undergraduates at Cornell and Ithaca College, local high school students, and the greater Ithaca community. No registration required. Co-sponsored by the Cornell Department of Earth and Atmospheric Sciences and the Cornell Center for a Sustainable Future, the series meets Monday nights, every other week, 7:30-8:45 pm in 101 Phillips Hall on the Cornell Campus (TCAT #10, Sage Hall bus stop). For more information: Louise P. McGarry - lpm3@cornell.edu or 607-342-0628.

Please send details about interesting upcoming events in the Cayuga Lake watershed to steward@cayugalake.org.

OUR PUBLIC CONFERENCES – WHAT INTERESTS YOU?

Network Members and Readers: Your Opinion Sought

The Network’s Board has been working hard to provide topical and informative public conferences for our members and the public, twice each year since 2009. The Board is interested in learning from you, our members and readers, what YOU would like to know more about. We’d like to offer public conferences that will attract your attention – and attendance!

To date, our public conference topics have been: aquatic weeds and plants; wetlands; and phosphorus in the lake. Our fall 2010 conference will be held on October 23 in Ithaca and is discussed under “Upcoming Events,” above.

Please take five or ten minutes and write us a note – via email to Hilary Lambert at steward@cayugalake.org, or mailed to her at POB 348 Aurora NY 13026. Tell us what you’d like to see more of in our newsletter and sent out via our listserv. Also, please compile a brief (or long!) list of topics (and potential speakers, if you know of any good ones) for upcoming public conferences at the north end of the lake (spring) and south end of the lake (fall). Might you be able to help us organize a meeting? All suggestions and advice will be read with great appreciation, and we’ll be eager to respond to your interests.
Hydrofracking Update: Water quality & quantity concerns

By Hilary Lambert, Steward

During the past year, Network News has provided updates about the hydrofracking issue, aka “Not your grandfather’s gas drilling.” Conventional natural gas wells are a familiar sight in the Cayuga Lake watershed, especially in Cayuga County, where fields are dotted with small concrete pads containing machinery. Drillers aim for gas-containing voids in the rock below, draw gas up to the surface and truck it away. While fracking was and is sometimes used in those wells, the impacts to property, air and water quality have been less evident from this method over the years than with the newer high-volume hydraulic fracturing.

This “extreme” hydrofracking requires much more land, water, and chemicals, with the resulting potential for greater environmental impacts. In the Marcellus Shale region (see map), the rock is rich in natural gas which is firmly fixed into the rock pores. A gas well is drilled down to the shale, first vertically and then horizontally, to maximize the amount of shale available. Explosive charges are set off, starting at the far end of the pipe, to fracture the rock. Engineers then inject large amounts of water (2-9 million gallons per frac) mixed with sand and chemicals, to hold the fractures open and facilitate retrieval of the gas. Following a frac, about half of the fracturing fluid remains in the ground, and the rest returns to the surface along with the gas. This “flowback fluid” must be stored and disposed of safely, as it now contains toxic fracturing chemicals and may have picked up naturally-occurring radioactivity and chemicals from the rock.

The new gas fracking wells each cover 5-15 acres, require heavy-use access roads and pipelines, and are a hive of around-the-clock activity, with water and chemicals trucks, generators, diesel engines, lights, etc. This activity is presently outside the control of the Clean Water Act, Clean Air Act, and Clean Drinking Water Act, due to language exempting gas and oil drilling and operations inserted into the 2005 Energy Bill by the Bush-Cheney Administration.

Water quality and quantity concerns and questions

The Cayuga Lake Watershed Network’s concerns about fracking are focused on both water quality and water quantity issues. Major water quality questions and concerns: How would flowback fluid be stored, treated, and disposed of? How would the construction of 5-15 acre concrete pads, with heavy truck traffic, road and pipeline construction – accompanied by logging and engineering alterations – affect stormwater runoff and quality? How would the quality of streams, creeks, headwater areas, wetlands, ponds and Cayuga Lake be affected by these proposed massive changes across our region’s landscape? How would spills be handled? Accidents, inevitable in large-scale mining, would have unavoidable and long-term impacts on surface and groundwater.

Major water quantity questions include: If one frac at a single well requires between 2-9 million gallons of water, billions of gallons of water will be needed for fracking if and when permitting of these gas wells begins in New York State. Where will that water come from? Presently, there are no state or federal controls over water withdrawals from the Cayuga Lake watershed, which is part of the larger Oswego/Finger Lakes watershed (see map of NY State Watersheds), itself part of the larger Great Lakes Basin. Other major basins in the Marcellus Shale region of New York are the Susquehanna and Delaware basins, each overseen by its own regulatory basin agency.

There are no withdrawal protections in our watershed at this time

According to Katherine Nadeau (Water & Natural Resources Program Director, Environmental Advocates of New York), “Gas wells will go where the gas is, and the industry will look to source the water as locally as possible to cut down on trucking costs. If we do not have a comprehensive water use management program (and the state currently does not), there is nothing to stop anyone from withdrawing any amount of water from any stream/creek/aquifer that they want - regardless of if the ecosystem or water system can handle it.”

Beginning in 2009, a New York law known as “Title 33” requires water withdrawal reporting – to a limited extent. According to DEC’s Web pages on water resources, “Any person or entity having the capability to withdraw more than 100,000 gallons per day of surface or groundwater must file an annual report with the New York State Department of Environmental Conservation (NYSDEC). Each annual report shall be submitted to NYSDEC by February 1st of the following year. …A reporting fee of $50.00 payable to NYSDEC must be submitted with each annual report.” These reports are viewable at DEC’s Albany offices or can be obtained via a Freedom of Information Request. The “withdrawal report form” can be viewed online at DEC’s Water Supply & Conservation Web pages, and the program, such as it is, is administered by the Division of Water’s Bureau of Water Resource Management.

Keeping in mind that the Oswego/Finger Lakes watershed is part of the Great Lakes Basin, what protections are offered by the Great Lakes Compact, ratified by eight states and signed into law in 2008? The Compact prohibits – with strictly

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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.