

LAKEWATCH

QUARTERLY PUBLICATION OF SENECA LAKE PURE WATERS ASSOCIATION SERVING THE SENECA LAKE WATERSHED AREA

What's In Your Watershed?

Reeder Creek Stream Monitoring Results Revealed Alarming Results!

Three Brothers Winery hosted the last in the 2015 series of events to reveal the results of the stream monitoring program that involved SLPWA volunteers and the Community Science Institute, a certified lab in Ithaca. Over 80 community members were in attendance for the evening event on October 29.



Steve Penningroth, Director of CSI, presented the findings from the 2014-2015 samplings.



Walt Gable, Seneca County Historian, presented a slide presentation and talk on the activity on the former Depot lands around the Reeder Creek area and how the stream results might be impacted by that activity.



SLPWA Board of Directors

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SLPWA Board President Mary Anne Kowalski presented a fact sheet with the alarming results for Reeder Creek highlighted in red. A copy can be found on SLPWA's website at senecalake.org.

The stream sampling program will continue in the spring of 2016. If you would like to volunteer, please sign up at <http://senecalake.org/forms/contact-us/>.

SLPWA AWARDS

To recognize the efforts of the special people who have made significant contributions to SLPWA this year, the SLPWA Board of Directors awarded its annual **Friend of Seneca Lake Awards** for 2015 to our experts on LPG gas storage on Seneca Lake:

- **Alberto Nieto, Ph.D.**
- **Raymond Vaughan, Ph.D.**
- **Richard Young, Ph.D.**

Perhaps the most the most immediate threat to Seneca Lake is the proposal to store LPG in abandoned salt caverns on Seneca Lake. DEC, after issuing draft permits, allowed interested parties to petition to raise additional issues at an issues conference, held in February 2015. SLPWA is still waiting for the decision to determine if its objections have been accepted and additional adjudicatory hearings will be held.



“Our experts have dedicated themselves to our effort to protect Seneca Lake and have gone above and beyond in preparing detailed comments on Crestwood's plans in order to help us convince the State DEC that the project should not proceed,” said SLPWA Board President Mary Anne Kowalski. “We are thrilled that they are able to attend our annual meeting and explain to our members and friends as to why LPG storage on Seneca Lake is a bad idea. And I am awed at their effort and dedication.”

“Our geological experts have raised a number of issues regarding the adequacy of Crestwood’s cavern integrity analysis. We are extremely grateful for their expertise and their dedication to protecting Seneca Lake,” said Rachel Treichler, the attorney for Seneca Lake Pure Waters Association in the issues conference. “They have identified several possible pathways through which brine from the storage caverns could reach Seneca Lake. These potential pathways are not ruled out by Crestwood’s analysis and need further investigation.”



Also being honored is **Edwin P. Przybylowicz, Ph.D.**, who received the **Bruce Adams Award**, which is awarded from time to time for extraordinary dedication to protecting Seneca Lake. The award is named after Bruce Adams, who, despite partial paralysis after surgery at age 10, went on to a distinguished professional and community service career. Bruce passed away in 2012 and the board has created this award in his honor. Ed Przybylowicz has shown similar dedication and commitment to Seneca Lake and SLPWA. Ed was on the SLPWA board from 2009 through 2015 and his commitment and contribution have been extraordinary. He has worked diligently on the SLPWA team assisting the experts and attorney in the challenge to the

LPG storage, directed the establishment of the stream monitoring partnership with Community Science Institute that is monitoring key streams around the lake, and created the first Harmful Algae Bloom program in 2014. Ed wrote many of the articles in *Lakewatch* as well as grants and reports. He took the lead on the redesign of the SLPWA website and continues to advise the members of the board and committees. The awards were presented at the Annual Dinner and Meeting on Wednesday, September 17, 2015, at Belhurst Castle.

SLPWA FOUNDER H. KIMBALL

HOWARD KIMBALL, SLPWA FOUNDER, DIES

On August 11, 2015, Howard Kimball died at the age of 86. Mr. Kimball is credited with recognizing the need to protect Seneca Lake and for mobilizing lake residents as well as businesses and local citizens to do something about it. A quiet but persuasive man, he was known for his ability to get others to address a problem, get them organized, and then move on to the next challenge. As an Elmira businessman and former mayor, he revived the New York State Wine Growers' Association and was one of the founders of Glenora Wine Cellars.

Mr. Kimball founded Seneca Lake Pure Waters Association, SLPWA, in 1990 and served as its first president for two years. In turn, he recruited community and business leaders for the original Board. The initial funding of \$70,000 provided by the Tripp Foundation and a myriad of fundraisers helped launch the organization as well. Howard, as president, operated behind the scenes. Each Board member had a specific assignment and was expected to play a major role in fundraising and the convening of public information meetings, but with few formal board meetings. The organization was modeled after other lake associations such as Lake George and Keuka Lake.

Today Seneca Lake Pure Waters Association continues to be dedicated to its original mission as articulated by Howard Kimball a few decades ago: "to protect the lake." SLPWA is truly appreciative of Howard Kimball's foresight, his leadership, his motivation, and his countless efforts to protect our Seneca.

Below is a picture from the Fall 1992 issue of *Lakewatch*.

From
LAKEWATCH's
archives

The Founding members were honored at a holiday celebration. Howard Kimball is the second from left.



Seven of our nine Founding Members.
Left to right. Gene Pierce, Howard Kimball, Guy Schamel, Mike Stamp, Don Woodrow, Buzz DeFelice, Tom Enroth. Not pictured: Bruce Hansen and Ed Hoffman

ROC Stars Wanted! December 1, 2015



You can be a **Seneca Lake ROC Star** by making a donation to show your support of Seneca Lake Pure Waters Association on Giving Tuesday via the www.ROCtheDay.org website.

ROC the Day is a 24-hour online event that provides our community an opportunity to support all the not-for-profit organizations doing great work in the nine-county Greater Rochester area.

SLPWA was founded over 25 years ago by a group of volunteers who recognized the importance of preserving Seneca Lake's water quality, natural beauty, and usability.

HABS UPDATE

This past summer, Seneca Lake was “in bloom” with hazardous algae. For the first time, Seneca Lake had three laboratory-confirmed, blue-green algae blooms along its shores at levels that were above the DEC threshold-criteria of concern. The confirmed blooms were from Kime Beach, Seneca County; Severne Point, Yates County; and Serenity Road, Yates County.

When algae blooms are formed, the risk of toxin contamination of surface waters increases, especially for some species of blue-green algae with the ability to produce toxins and other noxious chemicals. These are known as harmful algal blooms (HABs). Blue-green algae (BGA), also known as cyanobacteria, are of special concern because of their potential impacts on drinking and recreational waters. Blue-green algae can form blooms that discolor the water or produce floating rafts or scums on the water’s surface. These blooms can cause health risks to people and animals exposed to them.

SLPWA received 17 reports of suspicious algae blooms during August, September, and early October 2015. With the approval of the NYS Department of Environmental Conservation (DEC), SLPWA volunteers submitted five sets of samples to the SUNY EFS lab for testing; two of these samples were negative for BGA.

Based on review of photographs, report descriptions, site visits, and discussions with DEC, SLPWA believes that, of the 17 reports of suspected HABs, 15 were BGA. Not all could be submitted for testing, since some blooms disappeared before samples could be collected.

The widespread occurrence of HABs around the lake, along with their fugitive nature, mean that residents and users of the lake must be aware of what to look for and how to respond to suspicious algae blooms, for their own safety as well as the safety of people and animals in their care. The DEC website provides current and useful information about these blooms and how to handle them. DEC warns: “Because it is hard to tell a harmful algae bloom from other algae blooms, we recommend avoiding contact with any floating rafts, scums, and discolored water.” More information can be accessed at www.dec.ny.gov/chemical/77118.html.

The NYS Department of Health (DOH) has information on human and animal health effects related to HABs. According to DOH, “Some blue-green algae produce toxins that could pose a health risk to people and animals when they are exposed to them in large enough quantities. Health effects could occur when surface scums or water containing high levels of blue-green algal toxins are swallowed, through contact with the skin, or when airborne droplets containing toxins are inhaled while swimming, bathing, or showering.”

“Consuming water containing high levels of blue-green algal toxins has been associated with effects on the liver and on the nervous system in laboratory animals, pets, livestock, and people. Livestock and pet deaths have occurred when animals consumed very large amounts of accumulated algal scum from along shorelines.”

See www.health.ny.gov/environmental/water/drinking/bluegreenalgae.htm for more information

HABS - UPDATE *(Continued)*

The occurrence of algae blooms is directly related to the increasing nutrient concentrations in Seneca Lake. SLPWA's program of monitoring and identifying pollution sources of phosphorus and nitrogen in streams that feed the lake is an important component of a strategy to mitigate and reduce algae, bacteria, and weed growth in the lake.



For the past two years, SLPWA has worked collaboratively with Scott Kishbaugh, Chief of the Lakes Monitoring and Assessment Section at DEC, in monitoring the occurrence of BGA in Seneca Lake. This summer, of the 11 Finger Lakes, BGA blooms were confirmed in six lakes (Canandaigua, Cayuga, Conesus, Honeoye, Owasco, and Seneca), along with other water bodies in the area, such as Oneida Lake and Sodus Bay.

SLPWA plans for 2016 are still in the formative stages. SLPWA plans to meet with DEC in the coming weeks to lay plans for the 2016 season. It is clear that SLPWA will need to broaden its monitoring of the lake beyond incident reporting. Remote sensors have been used in other water bodies to monitor the generation and occurrence of HABs and could be considered for Seneca Lake if funds were available. SLPWA plans to expand its stream-monitoring program to cover additional streams and to focus on identifying and working with local communities on pollution sources of phosphorus and nitrogen in the entire Seneca Lake watershed.

Watch for an update on 2016 plans for these projects in SLPWA press releases, on our website at www.senecalake.org, and in future editions of *Lakewatch*.

SLPWA at Geneva SolarFest Event!

by Jill Ritter

On September 19, Seneca Lake Pure Waters Association shared information about Seneca Lake as an exhibitor at the 2nd Annual Geneva SolarFest, held at the Geneva Community Center.

Community members were interested in and asked questions about SLPWA's Stream Monitoring program and the blue-green algae blooms that were reported to the NYS DEC over the summer. They also expressed concerns about the possible gas storage expansion project near Watkins Glen.



HVHF - UPDATE

WRITE ON: New York's debt to Pennsylvania

By *MICHAEL J. FITZGERALD* |

Posted: Friday, October 23, 2015, 5:00 pm - *Finger Lakes Times* newspaper, Geneva, NY

People in New York State owe a debt of gratitude to the citizens of Pennsylvania.

In the last decade, the Keystone State dove headfirst into the unknown murky mire of hydrofracking for natural gas, revealing a panoply of problems while New York held back.

What problems? Documented cases of water and air pollution, serious health issues (human and animal), snarls of heavy truck traffic, industrialization of farmland and development of a contentious — and sometimes corrupt — political culture at local and state levels.

Pennsylvania's experience with hydrofracking reminds me of the old saw, "Thank God for Mississippi," an expression widely used in the Deep South by neighboring states because Mississippi is often at the bottom of national state education rankings.

For those of us in New York, we should be saying "Thank God for Pennsylvania," whose hydrofracking woes offer plenty of compelling evidence to support our state's current ban on hydrofracking.

The impressive pile of Pennsylvania evidence grew to mountainous proportions with a report issued last week by Concerned Health Professionals of New York and Physicians for Social Responsibility.

In a well-footnoted document, the 150-plus-page compendium presents medical studies, scientific reports and media accounts from across the nation (and globe) detailing hydrofracking problems.

Much of what is presented is as alarming as a Stephen King novel. Except this is all too real.

Consider this from page 4: "... Examination of the peer-reviewed medical and public health literature uncovered no evidence that fracking can be practiced in a manner that does not threaten human health."

In non-compendium speak, it's a serious human health risk.

Another interesting zinger: In the United States, every day more than two billion gallons of fluid are injected under high pressure into the earth as part of the hydrofracking process. Wastewater is disposed of by being forced into disposal-injection wells — more than 187,000 of them across the nation. It is those injection wells that are considered culprits in a huge spike in earthquakes in a half-dozen states.

The report says the number of earthquakes of magnitude 3.0 or higher has skyrocketed in Oklahoma since the advent of the fracking boom, with fewer than two per year before 2009 and more than 1,000 predicted to occur by the end of this year.

(continued on next page)

WRITE ON - continued, M. Fitzgerald

Like this year.

In 2013, Oklahoma had approximately 100 earthquakes. Last year the Sooner State was the most seismically active state in the entire nation, with 580 quakes. It easily eclipsed earthquake-prone California, which had fewer than 200.

California has no reason to be smug, however.

The report reveals the state allows toxic fracking waste to sit in open pits from which liquid contents evaporate into the air, causing significant air pollution problems. Fluid leaking from the pits results in serious water pollution.

And a bureaucratic blunder by state regulators has allowed fracking wastewater to be injected for years into aquifers containing clean freshwater — the same aquifers that California farmers often tap for irrigation water in times of drought.

It makes me mildly suspicious of California fruits and vegetables shipped to us in the Northeast.

Hydrofracking proponents are, of course, dismissive of the impressive body of case studies, evidence, and conclusions presented in this compendium.

Who would want to believe that your industry poisons ground water, fouls the air, and causes earthquakes? But as more and more evidence stacks up — in documents like this compendium and others — permit me to repeat something I wrote earlier.

Our neighboring state went first, showing by example problems New York has been able to largely dodge. With luck — and by keeping New York’s ban on hydrofracking in place — we can continue to avoid the hydrofracking-induced traumas of our southern neighbor.

We might all want to say, “Thank God for Pennsylvania.”

*Michael Fitzgerald has worked for six newspapers as a writer and editor as well as a correspondent for several news services. He published his second novel, *Fracking Justice*, in June 2015 and lives in Valois and Watkins Glen with his wife. His “Write On” column appears in the *Finger Lakes Times* on Fridays. He can be contacted at Michael.Fitzgeraldftcolumnist@gmail.com.*



WATERSHED MONITORING

by Ed Przybylowicz

A stream monitoring project for the Seneca Lake watershed was organized and launched during 2014 as a collaborative effort of SLPWA and Community Science Institute, Ithaca (CSI). For full details on CSI and the test data, visit <http://communityscience.org/>. The program is funded by grants from the Tripp Foundation, Freshwater Future, and SLPWA member support.

The goal in 2014 was to establish the monitoring process using three streams — Catherine Creek, Big Stream, and Reeder Creek — that flow into Seneca Lake. Each stream is sampled in four locations along its course, with five sampling events occurring throughout the year, including high-water events. In 2015 the program was expanded to include Keuka Outlet. These streams represent 75–80% of the total inflow from streams into Seneca Lake.

The results of our monitoring point to serious problems affecting the quality of water in Seneca Lake. Bacteria levels higher than recommended for public bathing beaches (recommended levels are **235 colonies/100 ml** or less) have been consistently found in these streams. The highest results were found, after storm events, on Keuka Outlet (73,500 colonies/100 ml); Reeder Creek (44,000 colonies/100ml), and Big Stream (35,500 colonies/100 ml).

Phosphorus levels range from high, above DEC guidance levels of 20 mg/L, to “crazy high.” Reeder Creek results were measured once at 1300 mg/L, or *650 times* the guidance level. The levels of E. coli and coliform bacteria represent direct health concerns, while the phosphorus nutrient levels directly link to the problems of algae and weed growth in Seneca Lake.

Press releases have been issued to bring more awareness and attention to the water quality degradation indicated by the monitoring project findings. Public meetings were held to share the results of our testing on Big Stream, Catharine, and Reeder creeks. An information meeting will be held on the Keuka Outlet results to date in Spring 2016, as well as updates for the other streams. Residents and local governments must understand these issues and actively support initiatives to identify the sources of the pollutants and take corrective action. SLPWA is working to update our website to provide the test results and analyses to members and concerned citizens as well as local officials.

SLPWA has contacted the federal Environmental Protection Agency (EPA) and the New York State Departments of Health (DOH) and Environmental Conservation (DEC) as well as local governments about the results. SLPWA filed an application and data with DEC that would declare Reeder Creek, because of its phosphorus, an “impaired waterbody” and lead to coordinated state and local work on identifying and resolving the source of the pollutants.

Plans are currently being formulated for 2016. SLPWA/CSI will continue to monitor the streams, with some adjustments in frequency, and are looking to add streams of concern. Because of harmful algal blooms (HABs) reports and other information, Kashong Creek is our next goal, if funding is identified. Linkage between phosphorus (location and levels) and algae blooms will be carefully tracked and reported.

Bringing attention to the issues uncovered in these studies is critically important. The fact sheets currently being prepared are an important tool. SLPWA’s Board and the Stream Monitoring Committee are preparing strategies for each stream and will be sharing them with members, along with draft letters to appropriate officials asking for specific investigations and actions.

The stream monitoring volunteers, the Stream Monitoring Committee, and the Board are all volunteers, making this project possible with minimal expense. Yet this work requires funding, primarily to support the lab testing costs. SLPWA’s ability to continue this work and to expand its impact is dependent on support from local governments and individuals. Additional contributions will be needed to sustain this effort going forward. Please consider supporting this program through the Annual Fund Campaign or your year-end, tax-deductible donations.

Complete results from the stream-monitoring effort can be found on the CSI website: <http://database.communityscience.org/queries>. Visit the SLPWA website at <http://senecalake.org/projects/watershed-monitoring/> for analysis of the stream results as well as action steps to take.

REVIEW OF HEALTH IMPACTS OF HIGH-SALINITY DRINKING WATER

by Paula Fitzsimmons

Since we have been talking about the salinity of Seneca Lake for several years, we felt it was time to review the reasons the human body actually is at risk when drinking water salinity is high.

The World Health Organization (WHO) provided a review in March 2015 stating that the variation in drinking water sources in the world is broad, from <20mg/liter to over 200 mg/liter. Populations with low sodium intake have lower incidence of hypertension and do not have the age-associated increase in blood pressure that we have in the United States. Although salt is absolutely a critical mineral for the human body, there is not agreement on required daily amounts. Guidelines are 120–400 mg in infants and children and 500 mg for adults. Nor is sodium regulated; the EPA has it on the “contaminant candidate list,” which gives the agency authority to monitor and study it further, but it is much further down the list of concerns than many other contaminants due to lack of data on human impact. Therefore, there is a general “recommendation” that a warning be given to at-risk populations if the drinking water salinity exceeds 20 mg/liter, and there is even some consensus that this level could safely be a little higher.

The at-risk populations are infants and adults with kidney disease, hypertension, and other sodium-sensitive conditions such as congestive heart failure. Sodium is crucial to nerve impulses, electrolyte balance, and fluid balance. The kidney is responsible for elimination of sodium and therefore must be functioning fully for the sensitive balance of sodium in the bloodstream to be maintained. Infants have undeveloped kidneys; for them, hypernatremia (high sodium in the bloodstream) can lead to permanent neurologic damage. Acute sodium toxicity leads to nausea, vomiting, convulsions, worsening of congestive heart failure, and cerebral and pulmonary edema.

The association between sodium and hypertension is not completely understood, but a high percentage of people with hypertension are sodium sensitive, i.e., sodium intake will raise their blood pressure. The usual medical caution is to limit sodium to 2000 mg/day for these people. A teaspoon of table salt contains about 2300 mg of sodium. The average American consumes 4000–6000 mg daily.

So, back to Seneca Lake. As we know, the lake’s salinity has increased dramatically over the past decades. The *DC Bureau Report* and other sources outline the following data on the lake’s salinity:

1900	40 mg/liter
1965	110 mg/liter
1965–1970	180 mg/liter
2015	120 mg/liter



FUN Lake Fact

Seneca Lake accounts for more than 50% of water found in the entire Finger Lakes Region. - See more at: <http://visitfingerlakes.com/about-the-region/lakes/seneca-lake/>

REVIEW - SALINITY (CONTINUED)

With the SLPWA stream monitoring and the lake monitoring done by Finger Lakes Institute and Community Science Institute, we find variations in the sodium levels. However, the actual health recommendation should be made over 20 mg/liter. At this time there is no sodium testing included in the Hector Town or Watkins Glen Annual Water Quality Reports (AWQR). James Bromka confirms that in the Village of Waterloo sodium is tested and is high. The AWQR from Waterloo includes the following warning:

Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets.

SLPWA is investigating why salinity isn't included in the drinking water testing for some of the drinking water suppliers, while others have warnings. We are also looking at how health care professionals are alerted when an entire watershed is considered high in salinity. Health care professionals in our area have not received any Public Health notice that possibly *all* of the drinking water from the lake is high salinity and therefore no infant formulas should be made with this water, nor should at-risk adults be drinking it. We do not usually think of drinking water as a source of sodium. We are in general encouraging everyone to drink more water! And for the majority with healthy kidneys, this works.

We will give an update on this issue in the next newsletter and will try to establish the percentage of this watershed population possibly affected by the salinity of Seneca Lake.

ANNUAL FUND CAMPAIGN

2016

The 2016 Annual Fund Campaign request will be mailed soon to all members. Please keep an eye out for the correspondence.

**SLPWA is grateful to our
members
and
contributors
to this
campaign.**



**EVERY
DOLLAR
HELPS!**

ANNUAL MEMBERSHIP

MEMBERSHIP RENEWALS CONVERTING TO YEARLY

If you have been anxiously awaiting your membership renewal notice, the Board of Directors has decided to begin yearly renewals that will be extend from May to May. A letter will be sent in April to begin the transfer from quarterly to yearly renewals.

**Did You
Know?**



The large size of Seneca Lake moderates the temperature, and makes the surrounding land ideal for growing grapes. Because of this, Seneca Lake has 40 wineries and vineyards - more than any other of the Finger Lakes. These wineries attract more than 600,000 visitors annually.

LAKE LEVELS UPDATE

by Bob Kayser

Lake Level Committee Member

With the recreational navigation season coming to a close, water levels are dropping to the planned winter levels. As most waterfront residents know, the summer of 2015 began with persistent high water levels, debris washed from tributaries and beaches, and some shore damage.

SLPWA's Lake Level Committee worked closely with the Seneca Falls Power Company to drop the level as rapidly as possible, but it happened slowly nonetheless.

The causes were:

- high precipitation;
- the unimpeded discharge of Keuka Lake into Seneca at rates of up to 2,000 cubic feet per second; and
- restriction on outflow imposed by the Canal Corporation due to flooding along the Seneca River and downstream in the Oswego Basin.

Under the best of circumstances, it is only possible to reduce the level of Seneca Lake one (1) inch per day through the Canal, while one (1) inch of rainfall on saturated ground in the Seneca Lake watershed results in at least 8 inches of increase in lake level.



Looking forward to the next year, the National Weather Service is predicting a warmer and drier winter and spring. SLPWA has installed its own lake level gauge and will monitor levels beginning in March. We will continue to work closely with the owner of Seneca Falls Power Company (SFPC) to ensure compliance with the terms of his license with the Federal Energy Regulatory Commission (FERC). If violations occur, SLPWA will notify FERC.

Between now and spring, think about how high lake levels might impact your property, and take steps now to move things just a little higher on the beach so that winter ice and waves don't leave you disappointed when the snowdrops begin to bloom!

Update: *As the newsletter goes to press, an application has been filed by SFPC and C-S Canal Hydro LLC, a subsidiary of Gravity Renewables, to transfer ownership of the plants at Waterloo and Seneca Falls to C-S Hydro.*

More on Gravity Renewables can be found at: <http://gravityrenewables.com>.

More information will follow as it is available.

Acknowledgments

SLPWA gratefully
acknowledges recent
donations made In Memory
of:

Howard Kimball
Bruce Windsor
Bruce Adams

NOTICE:

SLPWA welcomes Darlene Bordwell as the new Administrative Assistant! Darlene will start her part-time duties in January and has been getting trained by Bobbi Clifford, who has resigned to relocate closer to her Florida family. We welcome Darlene to the SLPWA family!

Website: www.senecalake.org

Email: slpwa@senecalake.org

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How about a gift subscription for
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