

SPRING 2022

Seneca-Keuka Watershed Partnership

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Note from the lake specialists:

As we enter peak lake season we also enter a new phase of the Seneca-Keuka Watershed Nine Element Plan (9E). Up until now we have been focusing our sights on actually representing the present conditions and trends, while setting our eyes on an idealized – but reasonable – future for the watershed. From this point onwards we will be working on exactly how we best bridge the gap between the present and that future. Much of the articles you'll find in this issue – as well as past and future issues – highlight specific actions and projects that can get us to that future, as well as the groups that can make it happen. The 9E will lay out the technical foundation for what is to come over the next several years, but we hope you continue to enjoy the extra stories, pictures and details the newsletter format offers us. Thanks for reading!



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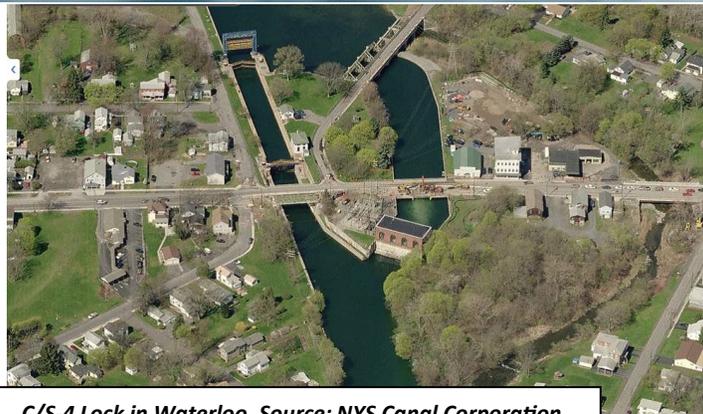


Watershed Planning

In order to sustain our watershed, much of it will depend on planning and applying actions to maintain and continue to improve, protect, and preserve our watershed.

Too Much of a Good Thing

One year ago, in our Spring 2021 newsletter, we wrote an article about lake level management after one of the driest years on record in 2020. It would seem mother nature is not without a sense of irony, promptly deciding 2021 would be the exact opposite. Rain started falling in April and seemingly never stopped. Things got particularly ugly in August and October during a series of intense rainfall events that dropped nearly 10 inches of rain in less than 72 hours in certain parts of the watershed. The results were as predictable as they are unfortunate; washed out roads, destroyed culverts, and flooding along streams and shorelines just covers the basics.



C/S-4 Lock in Waterloo. Source: NYS Canal Corporation

Lake level management is a fairly straight forward process under dry conditions; releases from Keuka Lake are guided by requirements for dilution and treatment of the Penn Yan Wastewater Treatment Plant effluent, while Seneca Lake is governed by requirements set forth by the Federal Energy Regulatory Commission and New York State Canal Corporation with the primary issue during droughts ensuring enough water is flowing into the State's canal system to maintain navigation. Things are much more challenging under the opposite scenario.

Seneca and Keuka Lakes, along with most of the Finger Lakes, are part of 5,200 square miles Oswego River watershed. This watershed stretches from Canandaigua Lake in the west over to the Tug Hill Plateau in the east, and is home to a significant portion of the New York State Barge Canal. Two geographical areas known as the Clyde/Seneca River and Oneida Lake Troughs – two belts of lowlands running east to west – play a particularly significant role in lake level management throughout the Finger Lakes. The general lack of elevation change within the troughs made them the ideal area to locate the canal; over a 60 mile stretch between Lock 27 in Lyons to Lock 24 in Baldwinsville the canal's surface elevation only drops 23 feet. While ideal for canal operation and construction, this fact presents real challenges for water-resources management as the lack of gradient severely limits the ability for water to drain from the area. If too much water is released during periods of high rainfall from upland areas – Canandaigua, Seneca, Cayuga, Owasco and Skaneateles Lakes that is – then widespread flooding along this area and further downstream is likely to occur. The situation is even further complicated for Seneca Lake due to its relationship with Keuka and Cayuga Lakes. This is straight forward in regards to Keuka; when Keuka Lake is experiencing flood conditions there is an impetus to maximize discharge at the Penn Yan gates that inevitably increase levels in Seneca Lake. Things are more complicated with regards to Cayuga Lake where the elevation change between Cayuga and the Barge Canal is only nine feet. Depending on how water is managed through the Mud Lock gate that receives water from both Cayuga Lake and the Seneca-Cayuga Canal, it's possible for outflow from Seneca Lake to technically cause flooding upgradient along the Cayuga Lake shoreline.

All of this is to say water level management is a challenge under wet conditions simply because we don't have a place to

Fueling dock at Olney Place on Keuka Lake in October 2021. Photo Source: Seth Olney



put it all. Unfortunately, this challenge is likely going to get harder if future rainfall projections prove accurate. From a Seneca-Keuka watershed management perspective our best option, and the reason it's amongst the highest if not the highest action priority in the 9E, is to increase the hydrologic resiliency of the landscape. By reducing stormwater runoff and increasing percolation and transpiration, we limit the rise of water levels in lakes and streams in response to storm events while simultaneously helping ensure a larger supply of groundwater is present to keep these waterways wet during times of drought. Water management is a tricky thing that can pit one group of interests against another, but I hope this is an outcome and goal we can all agree is worth aiming for.



Finger Lakes Land Trust

Learn about what the Finger Lakes Land Trust has been working on to protect our natural resources throughout the watershed.

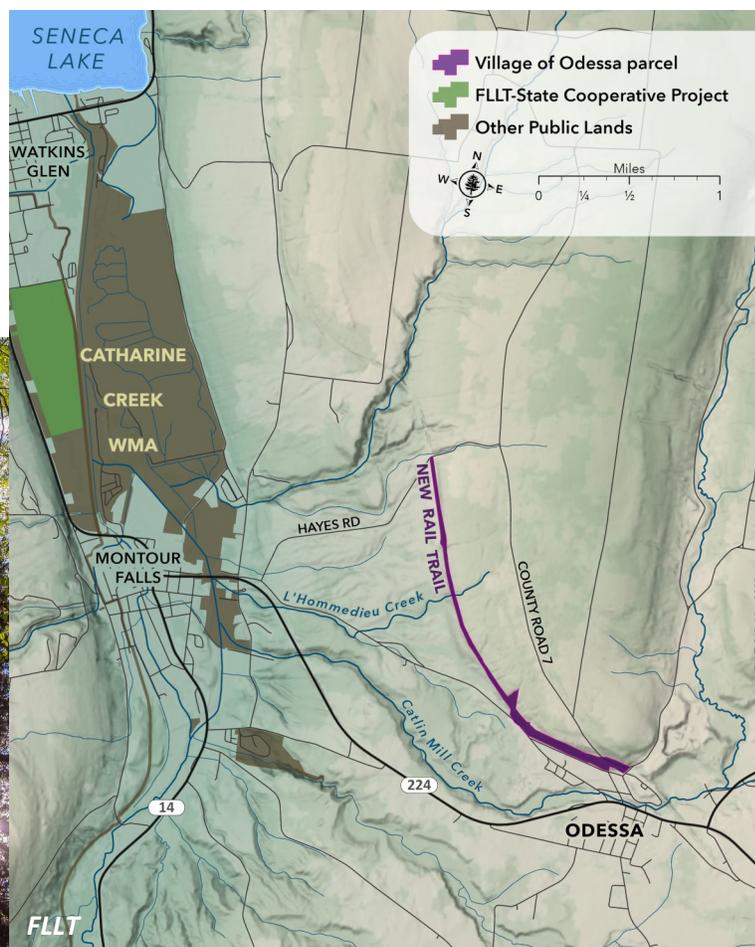
Finger Lakes Land Trust Supports Village of Odessa Rail Trail Project

The Finger Lakes Land Trust (FLLT) helped the Village of Odessa acquire two and a half miles of rail trail in Schuyler County. The FLLT provided technical guidance and a \$17,500 grant, half of the funds needed to purchase the trail corridor.

The 43.8-acre rail corridor passes through hardwood forests extending from the Village of Odessa to Hayes Road in the Town of Montour. The northern end of the trail lies just east of Watkins Glen and Montour Falls. The Village intends to manage the corridor as a multi-use trail, accommodating public access for pedestrians, cyclists, and horseback riders. Expanding trail offerings in this area will provide recreational opportunities and improve the quality of life for the residents of Odessa and the surrounding rural community.

“The Village of Odessa is excited to partner with FLLT and other private donors to secure our very own ‘Rail to Trail’ that connects right into Odessa,” said Mayor Gerry Messmer. “Our residents will have their own beautiful trail to hike which connects several municipalities together. We look forward to working to clear the trail, build a couple bridges, and make this a fully functional addition to our community for years to come.”

“We are delighted to support the village’s acquisition and we commend their leadership for seizing this rare opportunity,” said Land Trust executive director Andy Zepp. “Across the region, we see growing demand for trails like this and we are recognizing how much they can enhance a community’s quality of life.”



Chris Ray



Lake Monitoring and Research

Monitoring lake conditions is crucial to identifying the problems and figuring out a solution. Keeping up to date with the science of our water quality is essential.

Integrating Phosphorous Sorption Media with Tile Drainage

One of the biggest challenges with the management of non-point source pollution is its' diffuse nature; that is it does not emanate from a specific location such as a smokestack or sewer pipe. This is especially true when your pollution source is not geographically confined either, like with sediment and nutrients which are everywhere on the landscape (not to mention beneficial in the right quantities). In this scenario the general strategy is to limit the excessive supply of these would-be pollutants and/or their movement from one location to another.

Tile drainage is one fairly unique exception to this rule however. Because tile drainage essentially intercepts rainfall percolating into the soil and exports it at a specific point, it offers an opportunity to capture and treat non-point pollution prior to its discharge into adjacent ditches or streams.

The benefits of tile drainage, both economic and environmental, are many. In fields otherwise too wet to farm, it increases crop yields by improving nutrient uptake and allowing timely equipment access while also reducing surface runoff and soil erosion. Unfortunately, it's not all good news as tile drainage can also provide a rapid and direct conduit for transport of some pollutants to adjacent waters. The severity of this problem fluctuates widely from location to location due to variation in local conditions and installation practices.



PSM testing apparatus; SWIO



PSM components sorted and awaiting blending; SWIO

Combining “end-of-pipe” bioreactors with tile drainage networks is an effective and Natural Resource Conservation Service (NRCS) approved management practice for reducing subsurface nitrogen loads (see page 8 of the [Spring 2021 newsletter](#) for the story) but an equivalent practice has not been realized for phosphorous. Last summer, the Seneca Watershed Intermunicipal Organization (SWIO) and the Finger Lakes Institute, with funds provided by the Great Lakes Research Consortium and technical support from businesses and local Soil & Water Conservation Districts, began experimenting on such a system.

The use of Phosphorous Sorption Media (PSM) is a promising approach to the removal of phosphorous from water. PSM immobilizes dissolved phosphorous through one of two mechanisms: ligand exchange with iron/aluminum, or precipitation of calcium phosphate minerals. The use of PSM

in drinking water treatment systems is gaining acceptance but uncertainty about clogging and flow rates present challenges for its application in agricultural settings. Clogging of the PSM filter media has the potential to degrade system performance and lifespan while higher discharge rates can further reduce effectiveness. Design modifications to the PSM media may offer a means of addressing these limitations and is the focus of this project.

After acquiring the necessary resources, prepping the PSM media, and working out some experimental setup kinks, we are now beginning laboratory test runs. Once the design approach is optimized we hope to move into field trials in the coming years with the ultimate goal of establishing a new NRCS approved practice eligible for grant funding and wide-spread adoption. Stay tuned for updates and results in our next newsletter!



Water Treatment

Focusing on how we can treat the water prior to it entering the lake is essential for the future quality of our waterways.

Reimagining the Crooked Lake Canal

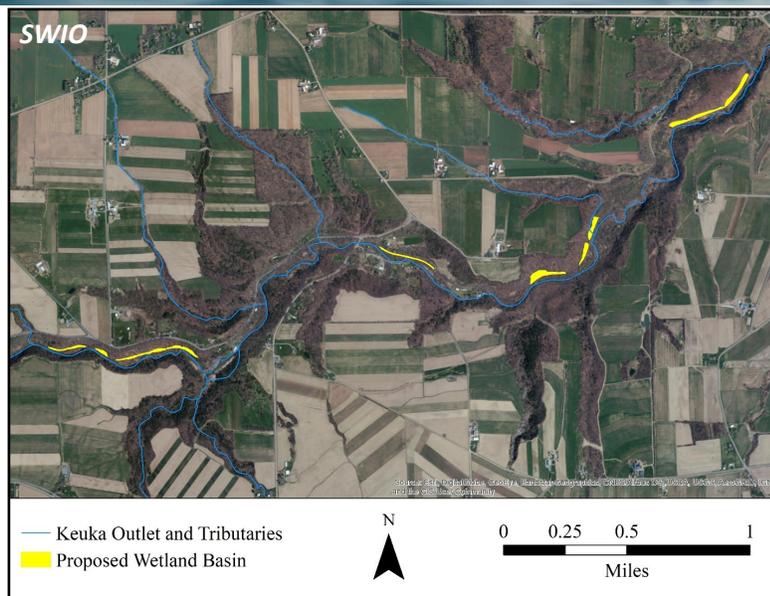
During the early days of 2021, Seneca Watershed Intermunicipal Organization (SWIO) approached Friends of the Keuka Outlet, Seneca Lake Pure Waters Association (SLPWA), and Yates County Soil & Water Conservation District (SWCD) with an idea... **what if we turn the remnants of the Crooked Lake Canal into a stormwater treatment system?**

While some of the Canal was ultimately lost to land conversion and development, the majority was simply abandoned. In several areas the old canal channel has filled in with soil and vegetation to varying degrees, in essence forming an alternating series of emergent wetlands, and whether natural or constructed, wetlands are increasingly valued for their ability to reduce flooding and sequester

nutrients, sediment and other pollutants. The Canal was created by excavating the northern floodplain lands and subsequently using that material to construct the towpath located between the Canal and the Outlet. The towpath was later repurposed as a railbed and now serves as a multi-use recreational trail. Along its 7.2 mile journey from Penn Yan to Dresden, the trail frequently functions as the *river-left* streambank and is effectively the only thing hydrologically separating the emergent canal wetlands from the Outlet. The idea therefore is straightforward; reconnect the Outlet to its former floodplain and these emergent wetlands capture and treat stormwater by placing some sort of the conveyance structure through the trailbed.

Ten areas within the Canal have been identified as viable locations. The initial concept envisions the use of inlet and outlet control structures placed at preset elevations to activate only under targeted streamflow conditions with the 7-day recurrence interval – that is the discharge level that is met or exceeded on a weekly basis – the initial target. The size of controls and elevation gradient will naturally restrict both the amount of water entering a wetland area and its residence time. Balancing the desire to divert as much floodwater as possible with the need to provide enough residence time for effective treatment is still being determined, but early modeled estimates suggest treatment of around 6.5 million gallons of water captured annually and a reduction of roughly 1,500 pounds of phosphorous on an annual basis. Nearly 2 billion gallons of additional water will be diverted and receive at least partial treatment as well.

Additional surveying and engineering will ultimately be needed to bring this concept to reality, so last year with financial support of \$5,000 from SLPWA, land owner support from Friends of the Keuka Outlet, and donated in-kind professional services from Yates County SWCD, SWIO submitted and received a \$20,000 dollar grant through the *Yates County Natural and Recreational Resources Grant* program. In November of 2021, the partnership group released a request for proposals to potential engineering design firms and after careful review awarded a contract to Natural Systems Engineering out of Syracuse earlier this month. Over the next several months, Natural Systems Engineering, Yates County SWCD and SWIO will be working to bring this exciting concept closer to reality. Look for project updates in future editions!



Agricultural Projects

Ag in the Seneca-Keuka Lake Watershed is extremely diverse and active. Ag Best Management Practices continue to evolve throughout the watershed.

Vineyard Agrichemical Mixing Facilities

Pest management is a critical part of growing grapes in the Finger Lakes Region of New York. Our local climate provides excellent growing capacity for high-quality grapes of all varieties. However, that same climate also can make for difficulties in pest management in vineyards, which is crucial for sale and processing of the fruit at the end of the growing season. Poor fruit quality carries through processing to poor wine and juice quality. Our local vineyards are using excellent pest management decisions on when to spray and how much to spray resulting in control of mildew, insects, and weeds utilizing the most sustainable practices available. These sustainable practices result in benefits to the watershed and the vineyard as each spray has a fairly high price tag. Due to the volume of materials that can be sprayed annually, the local vineyards in the watershed have been utilizing an environmentally safe area for loading of the sprayer. On a busy day, over a thousand gallons of spray can be loaded for vineyard applications. Any spills or leaks in the loading area can be a fairly serious hazard to the environment as the farms have both the concentrated original chemicals and a large volume of mixed material. In order to protect this area, many farms around the watershed have constructed an agrichemical mixing facility. These facilities provide for a concrete pad with curbs capable of storing 125% of the volume of the sprayer using the pad. All pesticides are also stored inside the facility keeping them safe from environmental contamination and wildlife. Any spills or leaks that would occur inside the facility are contained allowing for responsible clean-up and disposal. A roof is installed over the facility to exclude clean rain water from entering the mixing areas. These areas are constructed away from wells and streams to ensure a proper separation distance is made from critical water resource areas. The agrichemical mixing facilities have been constructed in the watershed since the early 2000's. As with all of our projects implemented,



Yates County Soil & Water Conservation District



engineering standards and guidelines must all be followed resulting in a high-quality product at the end.

From a prior article, you have seen some of the improvements that farms have made in their pesticide application equipment. The construction of these agrichemical mixing facilities is another second step that farms use to continue to stay sustainable for their operation and the environment. Installation of these practices have been made possible by grant funds secured through the Soil & Water Conservation Districts utilizing New York State's Environmental Protection Fund.



Yates County Soil & Water Conservation District

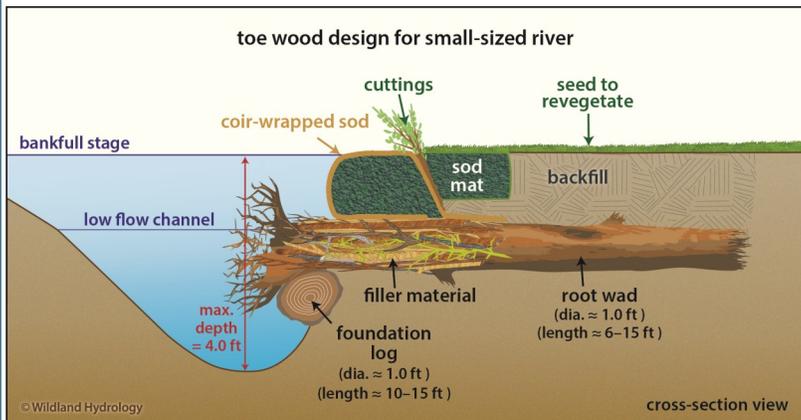


Soil & Water Highlights

Each quarterly newsletter will feature local Soil & Water Conservation Districts and some of their projects that are helping to improve our watershed.

Nature-Based Shoreline Stabilization

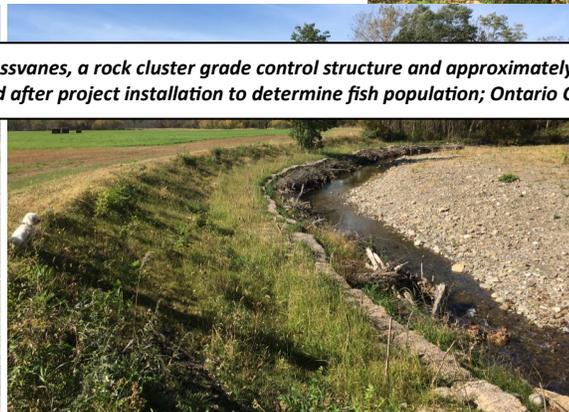
The Ontario County Soil & Water Conservation District (SWCD) has completed multiple streambank and shoreline stabilization projects across the county. Their focus is on implementing projects that not only protect public uses and public infrastructure, like roads and buildings, but also mimic what would occur in nature to recreate native aquatic habitat. Nature based design practices focus on using materials and building methods that occur naturally in ecosystems. Nature-based stream channel design is the combined use of soft and hard structures for stabilization such as root wads, native plantings, and rock (see the diagram below). Using nature-based design structures like toe wood and rock placement helps stabilize eroding banks while providing improved fish habitat. Spring trout season is an excellent time to go check out a couple projects that have been completed across Ontario County. These restoration projects significantly reduce sediment inputs, improve aquatic functions, and reduce the potential threats to private residential homes and public infrastructure. The New York State Department of Environmental Conservation promotes the use of natural materials to stabilize shorelines rather than hardened structures such as retaining walls and gabion baskets. If you own property along a waterbody and want to learn more about nature-based stabilization practices, [click here](#).



Streambank stabilization project utilizing toe wood structure with soil lifts and native plantings; Ontario County SWCD



Streambank stabilization project using crossvanes, a rock cluster grade control structure and approximately ~200' of toe wood. Electroshocking was completed before and after project installation to determine fish population; Ontario County SWCD



Shoreline stabilization project using coir wrapped soil lifts that incorporate native plant materials; the rock placed in front of the project is necessary to reduce wave energy and ice scour; Ontario County SWCD



Community Outreach

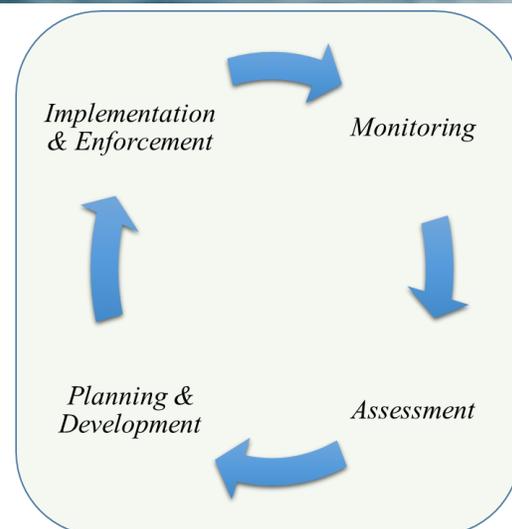
Each and every person can make an impact on our watershed. Attend our upcoming workshop on April 25, 2022 to learn more!

Finish Line in Sight

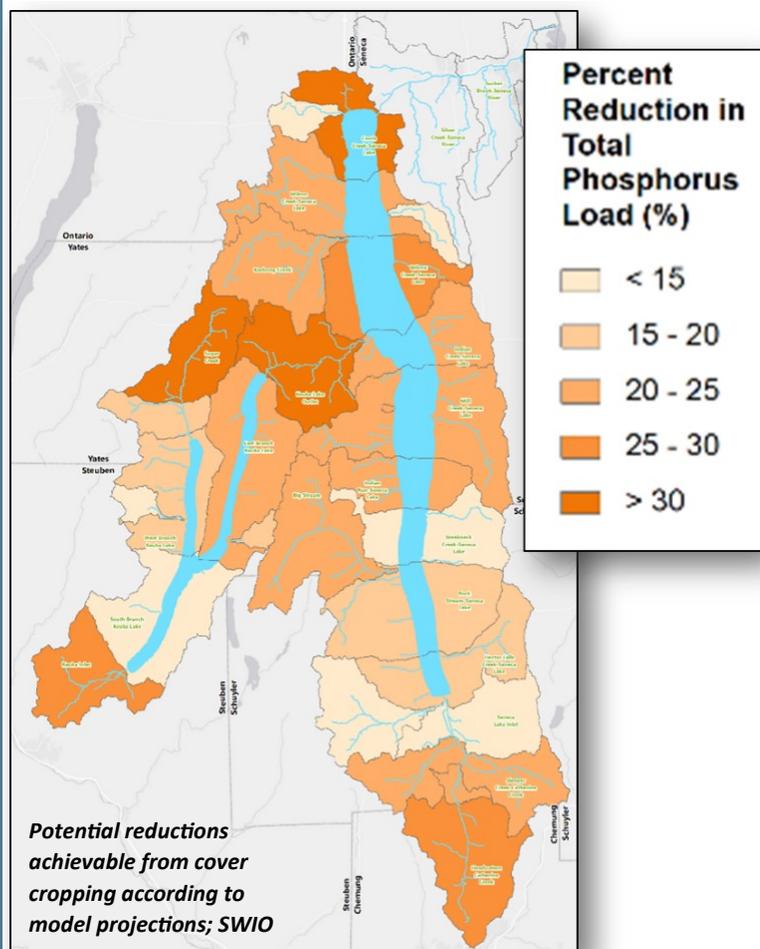
We would love to have you join us at our next public outreach meeting on **April 25, 2022 from 5pm-8pm in the auditorium at the Yates County Office Complex (417 Liberty Street, Penn Yan)**. To register for the in-person event, go to: https://pub.cce.cornell.edu/event_registration/main/events_landing.cfm?event=10thlula_257. Food will be provided by Keuka Lake Association and Seneca Lake Pure Waters Association.

If you would like to attend virtually, please register here: https://cornell.zoom.us/webinar/register/WN_5cXXbAhmRyecWWc5Y9LK8A.

In early February, a virtual presentation was held focusing on the development of an implementation strategy of the Seneca-Keuka Watershed Nine Element Plan (9E) through prioritization of actions and locations as applicable (the recording can be viewed here: <https://senecawatershedio.wordpress.com/9e/>). This decision making process was formed by public feedback from the earlier October 2021 presentation, follow up conversations with particular organizations such as Soil & Water Conservation Districts and regional planning groups, and modeling projections on loading under different scenarios. Some priorities such as capacity building are not geographically constrained, while others like hydrological resilience and cover cropping are applicable across multiple areas but are projected to be more impactful in some subwatersheds than others.



Water resource management framework; SWIO



Project implementation tends to garner the vast majority of interest and support but it's only one part of the cyclical process that is water resource management. Evaluation of your progress towards achieving your goals and the means by which you assess that progress are also critical components. These are the final elements within the 9E framework you can expect to hear more about in our next and likely final public presentation on April 25th, 2022 at 5:00pm in Penn Yan (with a virtual option as well). Once these final elements are incorporated into the 9E, we'll be releasing a draft version of the document for your review and feedback; look for it on the [Seneca Watershed Intermunicipal Organization \(SWIO\) website](https://www.senecawatershedio.org/) in mid-April.

Just over three years seems like a long time to develop a 9E, but in the world of watershed planning it's really not. We've been balancing the need to progress forward and complete the project with the need to hit quality targets and develop a realistic implementation strategy that is simultaneously achievable and aspirational. Hopefully, when we assess our progress down the road, we find ourselves on course towards achieving the goals we have envisioned and set forth in the 9E.



Did You Know?

Learn more about the history of tile drainage.

John Johnston and the First Use of Drainage Tile in the United States

One very important agricultural advancement of 19th century America that can be traced directly to Seneca County, New York is the first use of drainage tile in farm fields in the United States. It is John Johnston who deserves the credit for this accomplishment.

John Johnston was born in Dumfriesshire, Scotland, in 1791, to a family of sheep farmers. He immigrated to the United States, landing at New York City in April, 1821. The following year he purchased a farm in Fayette, overlooking Seneca Lake, which he called "Viewfields." Later he added several more parcels to the farm, bringing the total size to 320 acres.

Due to dense clay soils and abundant underground springs in the area, Johnston's fields retained a great deal of moisture. The excessive water prevented early spring planting, caused plants to grow shallow root systems, and froze out winter wheat crops. After poor yields from his initial plantings, Johnston recalled his grandfather advising that "Verily, all the airth needs draining", and remembering seeing men firing clay drain tiles in the fields of Scotland. Johnston decided to try the effects of underdraining the fields of his Fayette farm.

The actual origin of tile drainage is obscure. In 200 B.C., Cato described the use of brush, straw, poles, stones, boards and tile to drain fields. Pliny in the first century A.D. suggested the use of roof tiles in drainage. Eventually farmers realized that curved drain tiles were more effective than flat ones and used poles to form horseshoe-shaped tiles. Johnston sent to Scotland for two pattern tiles in 1835, which he took to Benjamin F. Whartenby, a maker of crockery, in Waterloo, New York. Whartenby made 3,000 tiles that Johnston laid down on his farm in 1838.

At first, some of Johnston's neighbors laughed to see him "burying crockery" in the ground, and called his project "Scotch Johnston's Folly." Naysayers grimly predicted failure, suggesting that the drains would be crushed under ground, freeze up, dry out the land, or even poison the soil. Opinions began to shift when the 10-acre plot where he first tried his tiles, previously a swampy bog, produced 50 bushels per acre in the first year, where previously 5 bu/acre had been harvested. The process was so successful that by the time he retired from farming he had 72 miles of tile drains on his 320-acre farm. Whartenby continued making tiles, producing 840,000 in 1849, and Waterloo was home to ten drain tile factories by 1871.

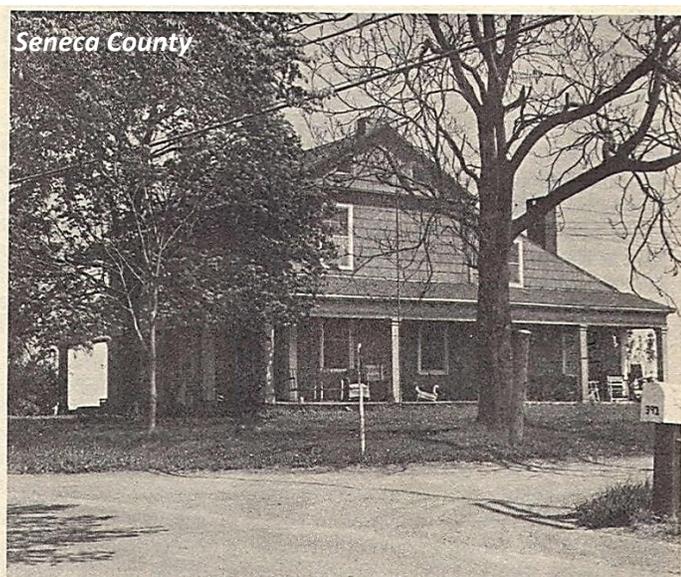
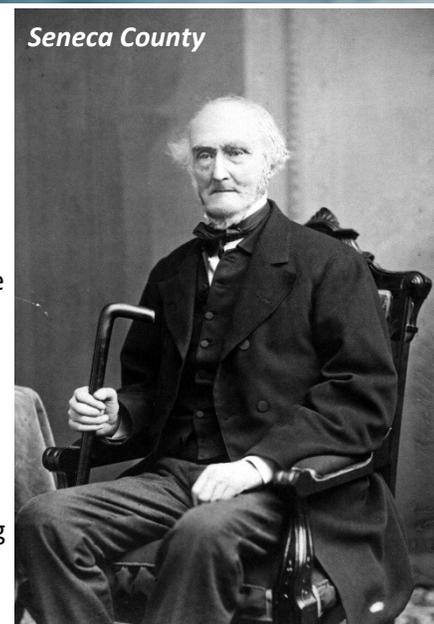


Figure 3 John Johnston Home Built 1821

Johnston was not a wealthy man when he began his tiling experiment: he depended on borrowed capital to get started, then repaid the loans with the money from his harvests. In this way he was able eventually to fully underdrain his farm of 300 acres by 1852, with over 60 miles of tile laid. Johnston stated that his success was due to "D,C, and D"—"dung, credit, and drainage." On the other hand, Johnston's son-in-law Robert Swan, owner of Rose Hill Farm, was the son of a wealthy man. His means enabled him to follow his father-in-law's example immediately on coming to Rose Hill in 1850. In two years, he was able to have laid the "first consecutive and ideal system of farm drainage in the country," with over 72,500 tiles. Because of drain tile, Liberty Hyde Bailey of Cornell wrote that "Johnston farm and Rose Hill are together perhaps the most important spot in American agriculture."

In the mid-19th century reports on drainage for the



Did You Know? Continued...

New York State Agricultural Society (NYSAS) center on Seneca County. Seneca County was well-known to farmers across the country as a testament to the benefits of agricultural drainage, largely through the efforts of John Johnston, his neighbor John Delafield (who imported a Scraggs Patent Tile machine from England, the first in this country), and Robert Swan.

John Johnston promoted tile drainage at every opportunity, even traveling to advise other farmers on the technology. Johnston boosted tiling through letters and articles published in such journals as *The Genesee Farmer*, *The American Farmer*, *The Boston Cultivator*, and Horace Greeley's *New York Herald Tribune*. He encouraged farmers who were reluctant of the expense of tiling their fields by repeatedly reminding them that, on his own farm, the tile had paid for itself in one to two years through improved

crop yields on his drained land. He served as chairman of the NYSAS's drainage committee for several years. Because of his ceaseless advocacy John Johnston became known as "The Father of Tile Drainage" in the United States.

The demand for drain tiles was enormous. In a May 22, 1849 advertisement in the *Seneca Observer and Union*, Benjamin Whartenby proudly announced he had "purchased a machine for making Tile, which has recently been imported from London, and is enabled to supply Draining Tile of every desirable form, to suit the wishes of customers. He is also prepared to manufacture Tile for roofing." This one machine transformed Whartenby's operation from a small business into the production of 400,000 drain tiles a year. The Whartenby company in Waterloo could not keep up with the growing demand for drain tile. Waterloo was the home to 10 drain tile factories by 1871. There was also drain tile-making companies in Geneva and Romulus.

Johnston died in 1880 at age 90. In 1909, Charles Mellen, who owned the old Johnston Farm at that time, reported large grain yields, which he attributed to the Johnston drainage system still in place and working after 50 plus years. As late as 2003, the Kime family—current owners of Johnston's original farm — reported that many of Johnston's tile lines were still working.

The Johnston Farm House today is owned and operated by the Geneva Historical Society. The address is 3523 East Lake Road, Geneva, New York. In addition to the farm house there is the Mike Weaver Drain Tile Museum.

The author thanks the Geneva Historical Society for providing much of the information for the text of this article



Municipal Voices

This section focuses on different municipalities and their role in protecting the water quality of the Seneca-Keuka Watershed. Learn what the Town of Fayette and partners are doing to make this goal a reality.

Seneca County Partnership Awarded Funds for Roadside Ditch Project

Many headwater stream reaches and wetlands throughout the Seneca-Keuka watershed have long since been buried and functionally replaced by roadside ditches. Ditches line nearly every non-densely urbanized road, and with over 2,000 miles of private and public roads in the watershed, it is safe to assume that there is an equivalent amount of ditches as well.

Roadside ditches are there in the first place to efficiently drain and transport stormwater off adjacent roadways, thereby reducing road flooding and enhancing road safety and integrity. These functions have long been the principal, and often, sole factors when considering ditch management and design decisions. Fortunately however, the impact of roadside ditches on water quality is increasingly being considered.

Because ditches carry water directly to streams and lakes, they can have significant effects – negative and positive – on both the quality and quantity of water within those waterways. Several best management practices exist to help balance road safety needs with water quality protection goals however, so the first question to consider is, *where do we need to implement such practices?* With thousands of miles of roadside ditches, that's not an easy thing to answer.

Last summer, Town of Fayette, Seneca County Soil & Water Conservation District and Seneca Watershed Intermunicipal Organization (SWIO), with support from the Cayuga Lake Intermunicipal Organization, Seneca County and several other towns in the county, submitted a grant to the New York State Department of State (DOS) Local Waterfront Revitalization Program to do just that. Today we are happy to report that we were successful!

Over the next few years we will be working to develop a methodology to assess the condition of roadside ditches and culverts throughout Seneca County that drain to either Seneca or Cayuga Lake, and executing that assessment to prioritize improvements. While we had initially applied for funding for both assessment and construction, DOS opted to award partial funding given previous challenges in other communities to complete projects that include both planning and implementation within a single grant performance window. Once we have our list of priorities ready, we will look to move into implementation through a future funding opportunity.

As a final bonus we will also be developing an interactive mapping tool that will be publically viewable. While the



Rock lining and check dams along a ditch adjacent to Mill Creek in Seneca County; SWIO



Road culverts near the Seneca-Schuyler County line wiped out by the August 2018 storm ; SWIO

principal goal of the tool is to store and share the ditch assessment data collected during the project, we envision it doing far more than that. Output from the Nine Element project, identification of construction projects implemented throughout the watershed, water quality monitoring data... right now the sky is the limit as to the information we hope to share with everyone about all the work going on in the watershed. If you have ideas about the sort of information you would like to see shared through such a platform please let us know!



Partnership Organizations

Learn about our partner organizations and how they are helping with the 9 Element Plan for the Seneca-Keuka Watershed.

Cornell University Department of City and Regional Planning

Look up New York State (NYS) Department of Environmental Conservation's (DEC) checklist for review and approval of a Nine Element Plan (9E) and you'll find no mention of laws or

regulations pertaining to water quality. But NYS Department of State (DOS), the principal funder behind the *Seneca-Keuka Watershed Nine Element Plan*, has long required a review of such laws as part of their watershed management planning requirements. With this element outside the typical scope for development of a 9E, the Seneca-Keuka Watershed Partnership turned to Cornell University's Department of City & Regional Planning.

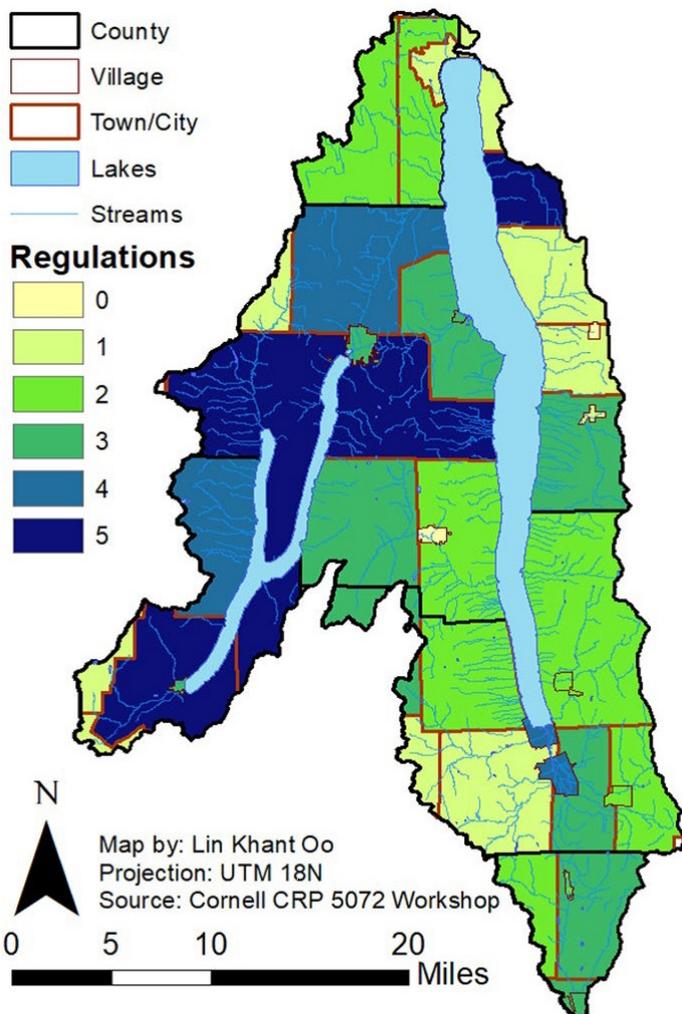
Cornell University has offered a planning curriculum since 1935, when the Carnegie Corporation helped support the establishment of a pioneering interdisciplinary suite of classes in the subject. Today, the Department of City and Regional Planning (CRP) is the home of leading programs in planning, historic preservation planning, and urban and regional studies. Located in the College of Architecture, Art, and Planning (AAP), CRP's influence, interests, and alumni reach beyond the Ithaca campus to communities, organizations, and institutions throughout the nation and world.

For more than 75 years, Cornell's planning students, alumni, and faculty have worked to transform planning and the lives of the world's citizens; and in doing so, have bridged social concerns and physical design at local and global scales while utilizing a diverse tool kit of methods and ways of critical thinking, all situated within high ethical standards. In CRP,

students and faculty study, teach, and practice planning as a diverse and integrative, applied and change-oriented discipline, seeking a more just and efficient, sustainable, and beautiful world. For the latest news about the department's activities, visit the news and events section of the department website (<https://aap.cornell.edu/news-events>).

In Spring of 2021, CRP Professor George Frantz and his students in *CRP3072/5072: The Land Use & Environmental Planning Workshop* took on the challenging task of cataloging local laws and regulations pertaining to water quality across the 712 square mile Seneca-Keuka watershed composed of over 40 municipalities. Their assessment focused primarily on five types of regulations: 1) erosion/sediment control law; 2) watershed inspector; 3) wastewater management code; 4) dock and mooring law; and 5) flood damage prevention law. Current status of such laws and recommendations for future actions were documented in a final report for inclusion in the 9E. Professor George Frantz also provided a summary of their findings at the October 7th, 2021 public presentation in Penn Yan with the recording available on the SWIO website (<https://senecawatershedio.wordpress.com/9e/>).

The Seneca-Keuka Watershed Partnership would like to take this opportunity to acknowledge and thank the CRP3072/5072 class of Emile Bensedrine, Danielle Fernandes, Jessica Geary, Nick Kakheladze, Nusaibah Khan, Minzie Kim, Cynthia Liao, Anna Lu, Mark Minton, Lin Khant Oo and Luke Slomba for their work and contribution to the 9E project. Good luck to all of you in your future endeavors!



Prevalence of water quality related laws within the five assessment types across municipalities; Cornell University



Thank you to the contributing authors:

Ian Smith is the Seneca Watershed Steward for the Seneca Watershed Intermunicipal Organization. He works at the Finger Lakes Institute office at Hobart and William Smith Colleges. The Seneca Watershed Intermunicipal Organization – SWIO for short – was formed in 2015 to preserve, protect and remediate ecological and water quality concerns in Seneca Lake and its surrounding watershed.

The Finger Lakes Land Trust (FLLT) is a nonprofit conservation organization that protects over 25,000 acres of our region's beloved natural areas and working landscapes. Their mission is to conserve forever the lands and waters of the Finger Lakes region, ensuring scenic vistas, clean water, local foods, and wild places for everyone.

Tom Eskildsen is the Senior District Technician for Yates County SWCD. Tom grew up on a dairy, crop, and vineyard farm in Yates County, received an associates of science degree from Alfred State College in 1995, and a bachelor of science degree in agronomy from Cornell University in 1997. Tom has worked for the Soil & Water Conservation District for 24 years managing the agricultural program. Tom is a certified crop advisor and New York State certified Agricultural Environmental Management planner.

The Ontario County Soil & Water Conservation District staff and Board of Directors members are committed to providing technical assistance and education to the residents of Ontario County to ensure the wise use of soil, water, and other natural resources. Ontario County is rich in natural resources: it contains or shares five of the Finger Lakes. Rich agricultural lands, extensive forests, abundant wildlife and water resources enhance the quality of life for all residents of the county. It is the duty and privilege of the Ontario County SWCD to preserve and protect these resources while helping to maintain farming as a viable, profitable and environmentally sound enterprise.

Walter Gable is the Seneca County Historian who began the position in late August 2003. He was a high school social studies teacher for thirty-two years prior to becoming the county historian. He has been a life resident of Seneca County. He graduated from the Romulus Central School and earned bachelor's and master's degrees at Syracuse University.

The Department of City and Regional Planning (CRP) is the home of leading programs in planning, historic preservation planning, and urban and regional studies. Located in Cornell's College of Architecture, Art, and Planning (AAP), CRP's influence, interests, and alumni reach beyond the Ithaca campus to communities, organizations, and institutions throughout the nation and world.

Ontario County SWCD



Ontario County SWCD



Credits

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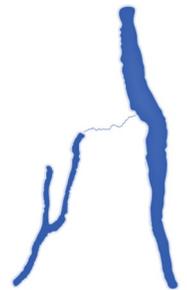
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