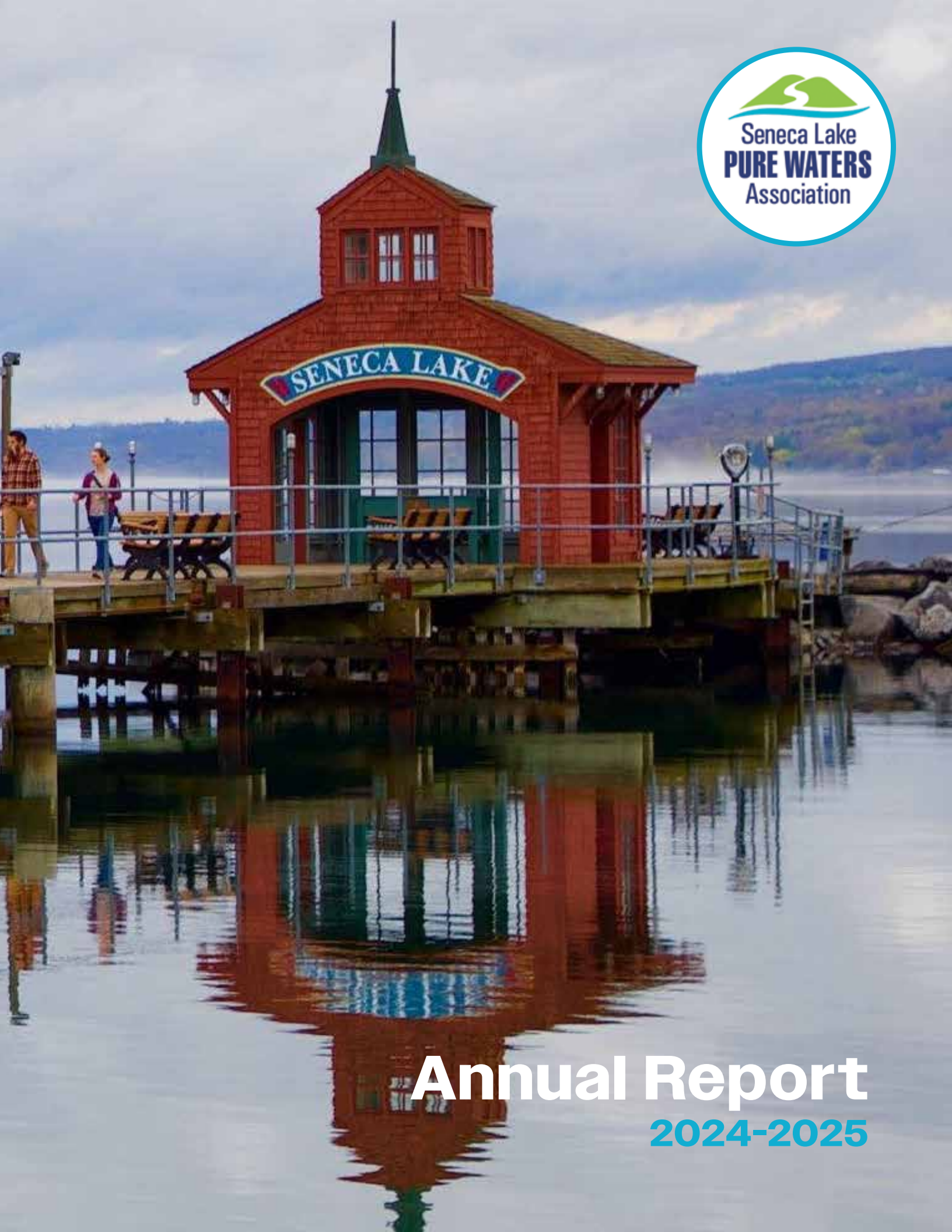

Seneca Lake
PURE WATERS
Association

Annual Report

2024-2025

ABOUT Seneca Lake PURE WATERS Association

Seneca Lake Pure Waters Association was incorporated in 1990 as a Section 501(c)3 nonprofit corporation dedicated to understanding, preserving, and improving Seneca Lake through research, public education, and advocacy.

During its 35-year history, the association has adapted its focus and addressed a variety of threats to the lake. Over the years, studies and informational efforts have covered a wide range of topics such as: Identifying various contamination and pollution threats

- Supporting research studies focusing on the lake's limnology (aquatic ecosystem), invasive species, and cyanobacteria (blue-green algae)
- Developing watershed management plans
- Informing municipal practices, such as land use ordinances and uniform onsite wastewater management

Today, Pure Waters is a vibrant and growing organization that is adding new, or improving existing, water quality programs each year. Monitoring programs leverage research partners to provide essential data on stream and lake nutrients as well as harmful algal blooms and invasive species. Pure Waters was also an important partner in the latest watershed management plan development process and is taking an active role in funding physical projects that protect the lake.

Pure Waters is committed to improving and adapting to meet the Seneca Lake watershed's future needs.

BOARD OF DIRECTORS

Class of 2025 (7)
Kelly Coughlin (Geneva)
Peggy Focarino (Penn Yan)
Larry Martin (Penn Yan)
Bill Roege (Penn Yan)
Mark Gibson (Himrod)
Mark Petzold (Geneva)
Jill Ritter (Geneva)

Class of 2026 (5)
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Timothy Johnson (Corning)
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Stuart Messur (Geneva)
Mark Swinerton (Hector)

Class of 2027 (7)
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Thomas Burrall (Geneva)
Lisa Greenwood (Varick)
Kristin Gusack (Hector)
Linda Sampson (Dundee)
Jody Tyler (Keuka Park)
Jacob Welch (Himrod)

Pure Waters Staff
Association Director: Emily DeBolt
Community Engagement Coordinator: Kelly Blackhurst

2024–2025 ASSOCIATION OFFICERS

PRESIDENT
William Roege

VICE PRESIDENT
Mark Petzold

SECRETARY
Mark Gibson

TREASURER
Jill Ritter

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Scan to join, renew or volunteer today!

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President's message

This past year brought both new challenges and new opportunities for the Pure Waters Association. Our programs continued to grow, supported by an incredible community of staff, volunteers, board members, partners, and donors dedicated to protecting the health of Seneca Lake.

One of the most sobering developments was the unprecedented outbreak of harmful algal blooms (HABs) during the summer of 2024—by far the most extensive we've seen on Seneca Lake and part of a troubling trend across the Finger Lakes. While we can't know what 2025 will bring, the scale of this event underscores the urgency of our work: monitoring water quality, sharing timely data, educating the public, and promoting land practices that reduce nutrient and sediment runoff into the lake.

We also continue to grapple with the growing threat of invasive species. Quagga mussels are already well established and linked to HAB formation. The detection of Starry Stonewort this year is a reminder of how quickly an ecosystem can change. And on land, the Hemlock Woolly Adelgid (HWA) continues to spread, threatening the trees that protect our streambanks and aquatic habitats. In response, Pure Waters has launched a multi-year initiative to support HWA treatment on private land—where most of the watershed's hemlocks are found.

At the same time, we're expanding our research and monitoring efforts to better understand nutrient movement and biological cycles in the lake and tributaries. From new phosphorus studies to stream flow monitoring, these projects are laying the groundwork for smarter, data-driven action.

There's more in this report about these and other new initiatives we've begun this year. None of it would be possible without our dedicated volunteers, generous members, and engaged partners. Thank you for being part of this important work—and for your commitment to a cleaner, healthier Seneca Lake.

—William H. Roege, President

The Mary Rose
Memorial Volunteer of the Year Award
Shannon Hazlitt Harts

This award honors a volunteer who has gone above and beyond in service to Seneca Lake Pure Waters. Shannon Hazlitt Harts was recognized for her exceptional leadership and communications expertise. Since 2020, Shannon has elevated Pure Waters' outreach through editing newsletters, press releases, and educational materials. Although the Communications Committee was dissolved in 2025, Shannon has continued her work within the Membership and Fundraising Committee, helping launch initiatives like the Lake Friendly Living video and a membership survey, significantly strengthening our public presence.

The Rich Adams
Memorial President's Award
Jacob Welch

Presented at the discretion of the President, this award recognizes extraordinary leadership and contributions to the organization. Jacob (Jake) Welch received the award for his transformative service as Vice President, President, and long-serving board member. Jake guided Pure Waters through growth and stabilization, spearheaded strategic planning, and helped launch the Sediment, Nutrient, and Pollution Reduction program. His leadership during key challenges and his continued role with the Finger Lakes Regional Watershed Alliance have had a lasting impact on both Pure Waters and regional collaboration.

Howard H. Kimball Memorial Founder's Award
Schuyler County Soil and Water Conservation District

This award honors individuals or organizations whose long-term efforts have significantly advanced the mission of Pure Waters. The Schuyler County SWCD, led by Manager Jerry Verrigni, was recognized for its oautstanding conservation work benefiting Seneca Lake. Projects such as flood retention ponds, stream stabilization, and cover crop planting have greatly reduced erosion and nutrient runoff. Their long-standing commitment to best management practices and environmental stewardship makes them an invaluable partner in protecting the watershed.

Performance & Financial overview

Pure Waters remains on solid financial footing, enabling us to fund and expand programs that protect water quality across the watershed. While our revenue and expense sheet shows a modest deficit this year, this reflects the ongoing use of restricted grant funds awarded in prior years. At the close of the fiscal year, Pure Waters carried forward $86,194 in restricted funds into 2025–2026, bolstered by a new major donation from the Rose Foundation that launched the first phase of our multi-year Hemlock Woolly Adelgid initiative.

Our program portfolio continues to grow. In 2024–2025, Pure Waters sustained the Sediment, Nutrient, and Pollution Reduction (SNPR) program, advanced monitoring on the lake and its tributaries, supported new research, and expanded public education. We also broadened our focus on chemicals of emerging concern—including PFAS and neonicotinoids—and began new phosphorus and streamflow initiatives in spring and summer 2025.

The organization employs one full-time and one part-time staff member. Our capacity is greatly multiplied by board members and volunteers who contribute significant expertise and time. In June 2025, Association Director Emily DeBolt accepted a similar role with the Canandaigua Lake Watershed Association, and Pure Waters will begin the new fiscal year searching for her successor.

Board development remained a priority, with five long-serving members stepping down in 2024 and four highly qualified new members recruited. The board continues to focus on building a diverse, skilled team to guide the organization's work.

Recognizing the need for long-term revenue growth, the association engaged a fundraising consultant in late 2024. This work produced new systems and strategies, resulting in immediate impact: the Annual Appeal raised 50% more than the prior year.

Financial management remains disciplined and deliberate. The Treasurer and Finance Committee carefully build and monitor the budget, consistently keeping expenses at or below plan. With annual revenue exceeding $250,000, Pure Waters underwent a professional financial review by Stokes, Visca, Hucko & Barone, CPAs, LLC of Rochester, NY, which resulted in a clean review.

The fiscal year runs from June 1 to May 31. The graphs and tables that follow provide a detailed picture of the Association's financial position as of May 31, 2025.

Human Resources

Our Organization Development Committee ensures a steady pipeline of talent is being recruited, trained, and recognized to meet the

Pure Waters information kiosk dedication at the Geneva boat launch.

ever-increasing resource needs and deliver on Seneca Lake Pure Water's mission to preserve and protect Seneca Lake. This year, the committee trained new board members, spearheaded committee realignment, improved human resources policies, recruited and placed volunteers, found new board candidates, and solicited award nominations. The committee has become critical to the health and vigor of the organization.

Volunteers

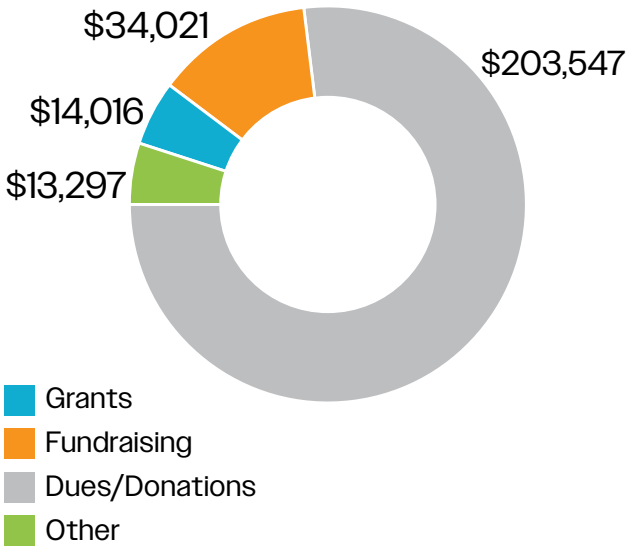
In 2024–2025, board members, program leaders, citizen scientists, and event supporters all played a critical role in advancing our mission. Almost 200 volunteers contributed their time and expertise across all aspects of our work.

HIGHLIGHTS INCLUDE:

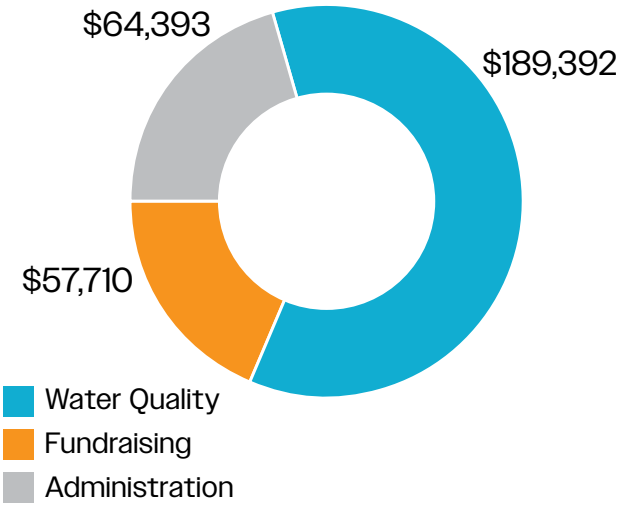
- Water Quality Monitoring – 172 volunteers contributed hundreds of reports and samples through our CSLAP, HABs, and various stream monitoring programs.
- Invasive Species Programs – 14 volunteers participated in the Macrophyte Survey Program and invasive species outreach, including the summer Landing Blitz and Invasive Species Awareness Week.
- Hemlock Woolly Adelgid Initiative – Six trained "Hemlock Hunters" surveyed more than 3,000 trees across private lands in the watershed.
- Education & Outreach – Staff and volunteers supported our school-based programming, public events, and symposiums, reaching hundreds of residents and students.
- Organizational Support – Board and committee members dedicated countless hours to governance, fundraising, communications, and event planning.

Together, these efforts amount to thousands of volunteer hours, equivalent to multiple full-time staff positions. Their dedication multiplies the capacity of our small staff and ensures that Pure Waters can deliver a broad impact on a lean budget.

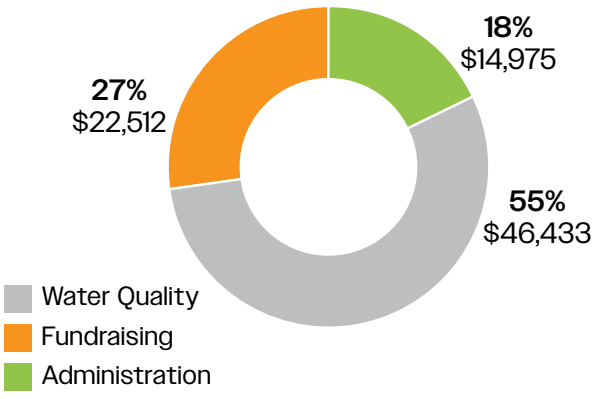
FY 2024-2025 Revenue
$264,886



FY 2024-2025 Expenses
$311,295



Labor Hours Breakdown



Balance Sheet	2024–2025	2023–2024
ASSETS		
Bank Accounts	$298,113.62	$341,705.06
Accounts Receivable	--	--
Other Current Assets	$3,396.44	$2,384.42
Fixed Assets	$36,768.18	$36,999.30
TOTALS	**$338,278.24**	**$381,088.78**
LIABILITIES & EQUITY		(1)
Current Liabilities	$3,970.65	$166.82
Restricted and Unrestricted Funds	$380,921.96	$266,765.65
Net Income	-$46,614.37	$114,156.41
TOTAL LIABILITY AND EQUITY	**$338,278.24**	**$381,088.78**

Revenue & Expense Summary	2024–2025	2023–2024
REVENUE		
Grants	$14,016.73	$45,785.00
Dues/Donations	$203,546.88	$205,956.50
Fundraising	$34,020.58	$26,560.03
Other	$13,296.95	$15,312.02
TOTAL INCOME	**$264,881.14**	**$293,613.55**
EXPENSES (2)		
Water Quality Programs	$189,391.86	$87,487.85
Membership/Fundraising	$57,710.50	$39,883.74
Administration (2)	$64,393.15	$54,374.98
TOTAL EXPENSES	**$311,495.51**	**$181,746.57**

Note 1: 2023-2024 Liabilities and Equity section is restated here and differs from the last Annual Report.

Note 2: The 2023–2024 entries adjust for the labor cost allocations in their appropriate accounting category as explained in the last Annual Report. This allows for an apples-to-apples comparison with 2024-2025 where labor costs were allocated to the correct category during the accounting period.

Total labor costs (salary and benefits) in 2024–2025 were $83,920.16. The graph to the left and above shows the breakdown of the labor costs. Much of the Water Quality labor cost is directed toward educational activities developed and delivered by the staff.

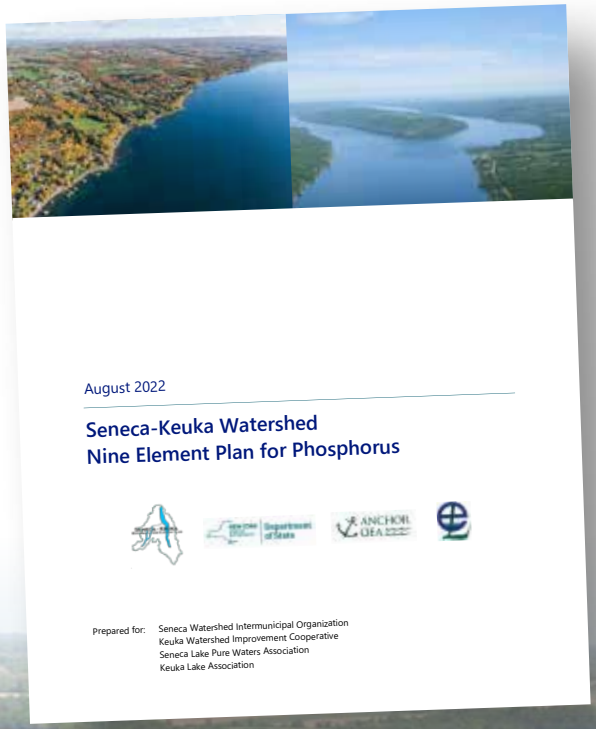
Phosphorus reduction

Nine Element Watershed Management Plan

The Seneca-Keuka Lake Nine Element (9E) Plan for Phosphorus, approved in 2022, provides a roadmap for reducing pollutants and protecting water quality through 71 recommended actions. These range from hydrologic resilience and best management practices on working landscapes to wastewater improvements, invasive species management, local law adoption, and public education.

Pure Waters is not the lead implementer of the plan, but we play an important supporting role. We continue to raise awareness of water quality issues through newsletters, social media, education forums, and direct outreach, while also partnering with local organizations on erosion control projects, invasive species monitoring, and emerging pollutant research.

As implementation advances across the watershed, we will remain engaged and keep members informed of progress over time.



Stream Flow Monitoring

In Spring 2025, Pure Waters partnered with the SUNY College of Environmental Science and Forestry (ESF) to install equipment to measure the flow at 10 streams around the lake. By combining volunteer-collected nutrient samples with stream flow data, we can now calculate nutrient loads—particularly phosphorus—entering Seneca Lake. The watershed's Nine Element Plan provides modeled estimates of annual phosphorus inputs using the USGS Soil and Water Assessment Tool (SWAT) model. Our new field-based data will help refine those estimates and track whether phosphorus levels are changing over time, giving us a more accurate picture of whether actions taken are having their intended effect.

Locations of the flow monitors around Seneca Lake

Sediment, Nutrient, and Pollution Reduction Program (SNPR)

Pure Waters remains committed to protecting water quality through our Sediment, Nutrient, and Pollution Reduction (SNPR) Program. This initiative funds projects that directly reduce the flow of phosphorus and other pollutants into Seneca Lake and its tributaries.

Phosphorus pollution affects water quality in many ways and is a key factor for harmful algal bloom formation. It often stems from agricultural runoff, stormwater, and fertilizer use. While best management practices on farms have helped reduce some inputs, the scale of the Seneca Lake watershed demands sustained, collaborative action. County Soil and Water Conservation Districts (SWCDs) are central to implementing on-the-ground solutions, and SNPR complements their work by providing local matching funds where they can have the greatest impact.

Selection Process

SNPR collaborates with all five watershed SWCDs (Ontario, Yates, Schuyler, Seneca, and Chemung Counties), as well as the Seneca Watershed Intermunicipal Organization (SWIO), to identify and co-fund projects. Proposals may

The Nine Element Plan . . .

estimates that 235,000 pounds of phosphorus enter Seneca Lake each year, with 80 to 90% occurring during high-flow events. On June 10, 2025, Big Stream peaked at 5 feet, delivering 151 million gallons of water into the lake in a single hour. The resulting sediment plumes, visible for miles, underscored how quickly storm events can transport massive amounts of nutrients and sediment into Seneca Lake.

include shovel-ready projects awaiting local matching funds or new initiatives aligned with watershed priorities.

Each proposal is carefully reviewed by our SNPR Committee based on:

- Alignment with our mission and the Seneca Lake 9 Element Plan
- Cost-effectiveness and efficient use of resources
- Implementation readiness and timeline
- Measurable benefits to the watershed

Projects that best meet these criteria are recommended to the Pure Waters Board of Directors for funding.

Projects Funded for 2024–2025

Pure Waters invested $68,000 to support seven high-impact projects across the watershed in partnership with county Soil and Water Conservation Districts. They include:

- **Tommy Creek Stabilization (Seneca Co.)** – Stream stabilization, headwall construction, and a retention pond to reduce erosion and nutrient runoff. *Estimated annual reductions: 13 tons of sediment, 30 pounds of nitrogen, 13 pounds of phosphorus.*
- **Salt Point Road Retention Pond (Schuyler Co.)** – Construction of a 500,000-gallon stormwater retention pond on Quarter Mile Creek to capture runoff in the upper watershed.
- **Cover Crops (Schuyler Co.)** – Supported planting of at least 200 acres of cover crops, reducing erosion and nutrient loss. *Estimated reductions: 600 tons of sediment, 1,200 pounds of nitrogen, 600 pounds of phosphorus.*
- **Hydroseeding (Schuyler Co.)** – Hydroseeding of at least 80 acres, including 10 miles of newly cleaned road ditches. *Estimated reductions: 240 tons of sediment, 480 pounds of nitrogen, 240 pounds of phosphorus.*
- **Castle Creek Water Management (Ontario Co.)** – Installed 1.5-million-gallon water control basins to retain sediment and build hydrologic resilience. *Estimated reductions: 150 tons of sediment, 300 pounds of nitrogen, 150 pounds of phosphorus.*
- **North Lodi Point Farm Fields (Seneca Co.)** – Implemented diversions and water control structures to capture stormwater before it erodes farmland. *Estimated reductions: 300 tons of sediment, 700 pounds of nitrogen, 300 pounds of phosphorus.*
- **Armstrong Road Erosion Control (Ontario Co.)** – Stormwater retention to reduce flooding along Route 14 and prevent soil and nutrient loss. *Estimated reductions: 64 tons of sediment annually.*

SNPR By the Numbers (2024–2025):

- **$68,000** invested in local projects
- **1.9 million gallons** of stormwater storage created
- **1,367 tons of sediment** prevented from entering Seneca Lake
- **2,710 pounds** of nitrogen reduced annually
- **1,303 pounds of phosphorus** reduced annually

Invasive species

Pure Waters led a volunteer-driven effort this year to detect, prevent, and slow the spread of invasive species in the Seneca Lake watershed, working in alignment with the New York State Partnership for Regional Invasive Species Management (PRISM), funded and managed through the Finger Lakes Institute at Hobart and William Smith Colleges (PRISM/FLI) while focusing on action at the lake level.

Volunteer monitoring

Fourteen trained volunteers carried out Macrophyte Survey Program (MSP) "rake-toss" checks every two weeks through the growing season to track priority aquatic plants. 2024 results: no hydrilla detected; starry stonewort remained confined to a limited area in the northwest; Eurasian milfoil remains widespread. In 2025, we are continuing to target surveillance for starry stonewort, hydrilla, and water chestnut, with management steps considered as needed.

Prevention at the launches

With support from the Great Lakes Commission, Pure Waters obtained funding to enhance PRISM's boat launch steward program and organized an Aquatic Invasive Species (AIS) Landing Blitz (July 2024) to extend prevention beyond existing steward coverage. Volunteers staffed Severne Point, Sampson Marina, and Lodi State Park, surveying boats and trailers, sharing "Clean, Drain, Dry" guidance, and boosting boater awareness. During Invasive Species Awareness Week (June 2025), our team, joined by energetic HWS student partners, tabled for three days at the Finger Lakes Welcome Center (Geneva) and engaged more than 75 visitors with prevention tips and take-home materials.

Community outreach

We met families where they are—like the Yates County Earth Day Extravaganza in April 2025—with hands-on activities such as round goby and zebra mussel crafts. We also shared practical steps the public can take to protect the lake.

Hemlock Woolly Adelgid Program

Hemlock trees are a keystone species in the Seneca Lake watershed. Their deep root systems stabilize steep streambanks, reducing erosion and runoff into the lake, while their dense

Charlie Fausold, Linda Sampson, and Tony Shelton in the field assessing hemlocks.

canopy keeps streams cool enough to support native fish and aquatic life. As these trees decline due to infestation by the invasive Hemlock Woolly Adelgid (HWA), the watershed faces increased risks of sedimentation, harmful algal blooms, and habitat loss.

Volunteer-Driven Assessments

In 2025, Pure Waters launched the first phase of its Hemlock Initiative with funding from the Rose Foundation and guidance from forester Zeb Strickland. A dedicated team of volunteer "Hemlock Hunters" spent the winter and spring in the field, surveying private lands around the watershed. Together, they assessed more than 3,000 hemlock trees, recording detailed health data in a centralized database. These assessments, carried out in partnership with landowners, represent the first comprehensive look at the status of Seneca's hemlocks and will guide future action.

Building Knowledge and Capacity

To prepare for this work, volunteers took part in training and educational opportunities, including field days with forestry experts and updates from the New York State Hemlock Initiative on the latest treatment and biological control strategies. These experiences strengthened local capacity and gave volunteers the skills needed to make high-quality contributions to the project.

Community members stop by to learn more about protecting Seneca Lake and getting involved with Pure Waters.

Left to right: FLI, Pure Waters board member Linda Sampson, Pure Waters summer intern Jackson Abreu, and PRISM/FLI summer employee..

Next Steps

With the assessment phase now complete, Pure Waters is developing a Landscape Management Plan to prioritize treatment areas across the watershed. The team is actively seeking funding to begin targeted, environmentally safe insecticide treatments in fall 2025, modeled on successful efforts at Owasco Lake. At the same time, Pure Waters will remain engaged with state and academic partners on longer-term biological control solutions.

This year's progress demonstrates the power of volunteers, science, and community partnership. By stepping up to survey thousands of trees, our Hemlock Hunters have laid the foundation for protecting Seneca's forests—and the water quality they safeguard—for generations to come.

Water quality monitoring

Harmful Algal Bloom (HAB) Program

Shoreline monitoring for harmful algal blooms (HABs) remains Pure Waters' largest volunteer program and one of the most comprehensive efforts of its kind in New York State. What began in 2014 with a hotline and just a few responders has grown into a mature monitoring network. In summer 2024, nearly 100 trained volunteers surveyed 82 shoreline zones—covering about 80% of Seneca Lake's shoreline.

Unfortunately, 2024 was a record-setting HAB year for Seneca Lake and across the Finger Lakes. The first confirmed bloom appeared on June 24, weeks earlier than normal, and blooms persisted through November 3. Volunteers submitted 802 observations, resulting in 336 confirmed blooms—by far the most ever recorded on Seneca Lake.

The season included 49 bloom days, 23 of which saw five or more separate blooms. From August 23 to September 4, blooms were reported every day, followed by another stretch from September 9 through September 30—35 blooms days in a 39-day period. Calm winds and warm water temperatures were likely major drivers of this unprecedented outbreak.

For perspective, the 2024 total dwarfed previous records: 2019 saw 130 confirmed blooms, while 2020 through 2023 ranged between 15 and 72.

Volunteers report observations via a mobile app, with photos used to confirm blooms. Once confirmed, HAB team members upload the data into the NYS DEC statewide reporting system, ensuring timely and accurate public information. In addition, Pure Waters continues to operate its Lake Alert text system, which sends one daily notification when blooms are present—a tool that grows more popular each year.

By the Numbers: 2024 HABs on Seneca Lake

- **100 volunteers** monitoring
- **82 shoreline zones** covered (~80% of shoreline)
- **802 observations submitted**
- **336 confirmed blooms** – highest ever
- **49 bloom days**, including
  - **23 days** with 5+ blooms
  - **35 of 39 days** with blooms (Aug 23–Sept 30)
- **Earliest bloom ever recorded**: June 24, 2024
- **Latest bloom**: November 3, 2024
- Prior peak: **130 blooms (2019)**

HABs on Seneca Lake: 5-Year Trend

Year	*Confirmed Blooms / Notes*
2019	**130 / Previous record high**
2020	**15 / Very low season**
2021	**72 / Moderate activity**
2022	**49 / Slight decline**
2023	**54 / Similar to 2022**
2024	**336 / Record-breaking season**

Stream Monitoring Program, 2024–2025

Pure Waters Association's stream monitoring effort has completed its eleventh year of water quality monitoring. Monitoring is conducted by volunteers in six streams or creeks that enter Seneca Lake. Volunteers collect water samples at multiple sampling sites at each stream, including the mouth. In total, 17 locations in the six streams were monitored for one baseline and at least one high-water sampling event, when stream flows are elevated after rainfall. Pure Water's partner in this monitoring, the Community Science Institute of Ithaca, NY, performed the laboratory analysis.

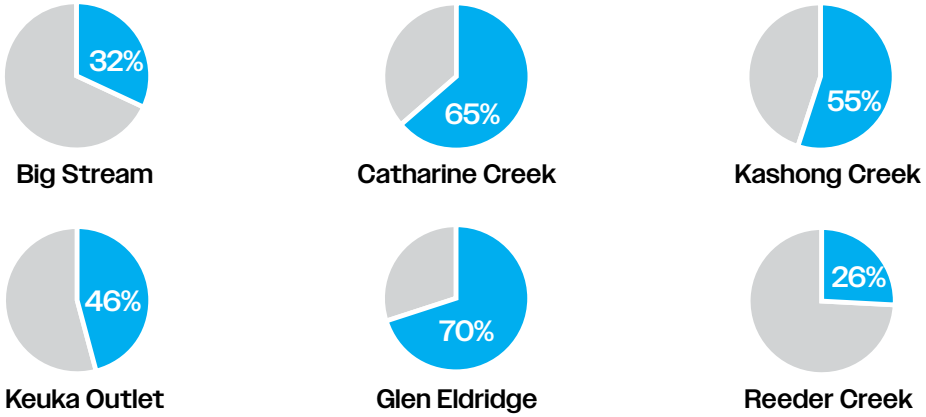
Each of the streams sampled has unique conditions and characteristics that contribute valuable information to the program, and they have some water quality trends in common.

Stream monitoring volunteers training in the Pure Waters office.

All streams show elevated bacteria and nutrient levels. Problems such as bank erosion and upstream runoff increase nutrient and bacteria loading to the streams and to the lake. Elevated levels of phosphorus can lead to algae overgrowth and contribute to harmful algal blooms. High concentrations of *E. coli* bacteria found in streams are a sign of contamination from

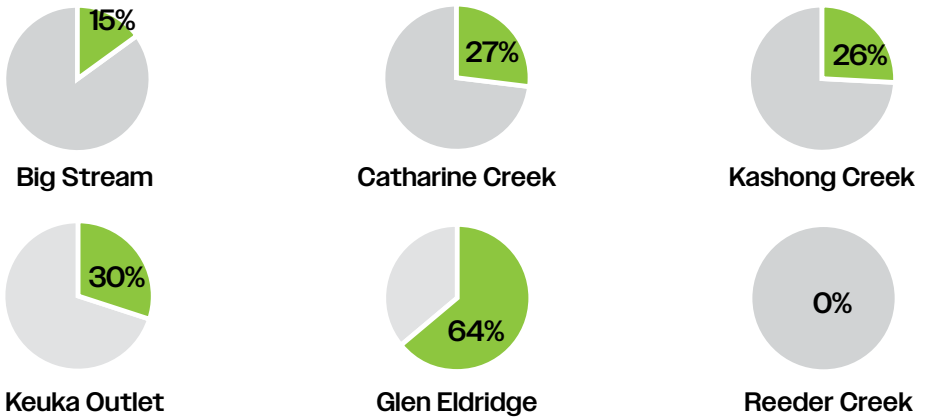
Streams do not always comply with bacteria limits for swimming

Shown are percentage of stream samples that meet E. coli bacteria limit of 235 cfu/100 mL, results from 2014-2024.



Most streams exceed the phosphorus guideline more than half of the time.

Shown are percentage of stream samples that meet total phosphorus limit of 20 ug/L, results from 2014-2024.



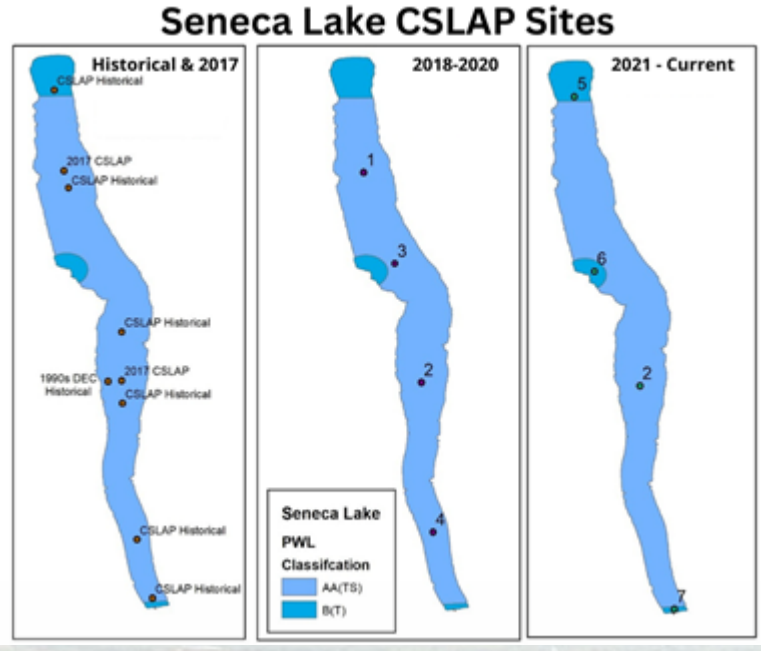
agricultural runoff or sanitary sewer or septic system discharges, which remain an ongoing concern.

Pure Waters is continuing its monitoring efforts this year to track trends in Seneca Lake water quality, and that understanding can bring about further improvement actions. And as always, we are truly thankful to the stream team volunteers who make this effort possible!

Citizen Statewide Lake Assessment Program (CSLAP)

Since 2017, Pure Waters has participated in the statewide Citizen Science Lake Assessment Program (CSLAP), which has been monitoring New York's lakes since 1986.

On Seneca Lake, a team of 10 dedicated volunteers collects water samples at four sites: Geneva, Dresden, and Watkins Glen (all "Class B" waters, suitable for swimming and recreation), and a mid-lake location off Severne Point ("Class A" water, suitable for drinking). Each site is sampled four times during the summer, for a total of 16 outings.



At each visit, volunteers collect water samples from the surface (4.9 feet, 1.5 meters) and deeper waters (59 feet, 18 meters), measure transparency using a Secchi disk, and record temperature profiles. Samples are filtered, frozen, and shipped to the Upstate Freshwater Institute for laboratory analysis.

The resulting nutrient and biological data help track lake health and identify emerging trends. The program is supported by the NYS DEC, which covers lab and transportation costs, while Pure Waters contributes $1,450 annually for testing and New York State Federation of Lake Associations (NYSFOLA) membership. DEC compiles the results into an annual assessment report, available each spring through the Pure Waters website: https://senecalake.org/preserve-protect/monitoring-data-collection/cslap/

Neonicotinoid Monitoring and WAVES

Background. Neonicotinoid ("neonic") pesticides gained new attention in 2023 with the passage of the NYS *Birds and Bees Protection Act*. These chemicals are widely used, often as seed coatings. A Cornell study in 2020 found that less than 10% of the pesticide is taken up by the plant, with the rest dissolving into the environment. While New York will phase out coated seeds by 2029, other forms of application on crops and landscapes will remain permitted.

Concerns about neonics are growing. Although the EPA has not established drinking water limits, research has linked chronic exposure to developmental, reproductive, and thyroid effects, as well as neurodevelopmental disorders. Neonics are not included in New York's required public water testing, yet USDA monitoring in 2014 detected them in 12 of 19 fruits and vegetables sampled, often with multiple residues.

Our Work. In 2023 and 2024, Pure Waters tested seven streams in the watershed

J. McKnight, Steve Bromka and Ken Sauer capturing bugs in the kick-net, and then sorting them in the ice cube trays before sending them to the DEC for identification. Kendaia Creek originates in the Depot.

for neonicotinoids. Of 31 samples, most showed low-level or no detections, but six samples taken during high flows exceeded EPA benchmarks for aquatic macroinvertebrates.

To better understand ecological impacts, Pure Waters expanded its work in 2024 by adopting the NYS DEC's Water Assessment by Volunteer Evaluators (WAVES) program. Four two-person volunteer teams collected stream samples of macroinvertebrates such as insect larvae, worms, and beetles. The DEC then identified the organisms and classified water quality based on the diversity and abundance of "Most Wanted" versus "Least Wanted" species. An additional Izaak Walton League (IWL) assessment was also completed.

Pure Waters plans to double its WAVES teams from four to eight in 2025, strengthening our ability to track water quality and connect pesticide use with real impacts on stream ecosystems.

PFAS Water Sampling

In 2024, Pure Waters received a grant from the Rose Family Foundation to begin testing for per- and polyfluoroalkyl substances (PFAS) in Seneca Lake and selected tributaries. PFAS, sometimes called "forever chemicals," are widely used in industrial and consumer products and are increasingly recognized as a serious threat to both human and ecosystem health.

Initial results from Seneca Lake samples showed very low—but detectable—levels of several PFAS compounds. In contrast, tributaries near the former Seneca Army Depot revealed significant contamination, while most other streams entering the lake showed little to none. These findings prompted Pure Waters to expand its efforts.

With additional support from Freshwater Future, we conducted a second round of stream testing in Spring 2025, adding Silver Creek, Wilcox Creek, and an unnamed tributary to our original sampling sites at Reeder, Kendaia,

Dr. Stephen Shaw, hydrology expert from SUNY ESF, and Mark Petzold, Vice President of Pure Waters conducting stream flow monitoring.

Bill Roege, Nearshore sampling.

and Indian Creeks. Samples were analyzed by Clarkson University's Center for Air & Aquatic Resources Engineering and Sciences (CAARES) using EPA Method 1633, which measures 40 PFAS compounds and provides Department of Defense-certified results.

The March 2025 sampling, conducted under relatively dry conditions, showed lower PFAS levels overall. However, under higher-flow conditions, several streams revealed markedly elevated PFAS concentrations, especially in Kendaia Creek, where levels were particularly concerning. This flow-related variability mirrors our experience with nutrient loading.

Responsibility for remediation rests with the U.S. Army Corps of Engineers (USACE), which has been working for decades to address contamination at the former Depot. In 2023, USACE completed sampling at 34 sites, including wells and surface waters. We are waiting for the release of the results. Pure Waters' testing is intended to complement this work and underscore the urgent need for timely, effective cleanup.

Nearshore Nutrient Cycle Research

In Spring 2025, Pure Waters launched a new collaborative study with the Finger Lakes Institute (FLI) to better understand nutrient dynamics along Seneca Lake's shoreline. The project seeks to answer two important questions: why harmful algal blooms (HABs) are so frequent in a relatively low-phosphorus lake, and whether buildups of Cladophora, a green filamentous algae, are linked to HAB "hot spots."

Volunteers are now collecting weekly water samples at six northern-basin docks, while FLI students conduct monthly offshore plant surveys by kayak. A new Cladophora reporting app, modeled after our HABs tool, also invites residents to document algae buildups around the lake. The first samples were taken in May 2025, marking the start of this multi-part research effort.

Education & outreach

This year, Pure Waters expanded its capacity to connect with the community by hiring a Community Engagement Coordinator, who, together with the Association Director, now leads many of the efforts once managed by the Communications Committee. Committee members remain active contributors, while the newly formed Education Committee has begun focusing on outreach to primary school students.

The communications team has enhanced the look and impact of our outreach, producing more engaging content for members and the broader community, while also supporting membership and fundraising efforts. A variety of tools are used to advance our mission, including:

- **LakeWatch Newsletter** – Distributed electronically throughout the year, with one hard-copy edition, featuring timely articles on programs, water quality, and organizational news.
- **Water Quality Newsletter** – Published weekly during summer to support the HABs program with sighting reports and public updates.
- **Podcasts with Local Radio** – Monthly conversations between board members and a local host, reaching a wide audience.
- **Social Media** – Active presence on Facebook, Instagram, and YouTube, with frequent educational posts and event updates informed by engagement analytics.
- **Press Releases** – Regular announcements consistently picked up by local outlets, raising the visibility of our work.

The staff has significantly increased interactions across the range of social media platforms, especially Facebook, which was up between 300% and 500% over the year before, and more people than ever are reading our newsletters.

Two major education initiatives stood out this year. In Fall 2024, Pure Waters launched its first school-based lessons reaching 133 third grade students in the Geneva City School District. The long-term plan is to add one grade each year so that this first group of students will receive three years of Pure Waters programming by the time they leave 5th grade. In Spring 2025, Pure Waters co-sponsored a Water Quality Symposium with the Seneca Lake Intermunicipal Organization (SWIO) and the Finger Lakes Institute at Hobart and William Smith Colleges. The event drew about 100 in-person attendees and reached additional audiences through live streaming.

In addition, Pure Waters participated in numerous community events throughout the year, sharing information at public gatherings and partner programs to broaden awareness of lake health and engage new supporters.

Lake Friendly Living

The Lake Friendly Living (LFL) Committee continues to promote practices that help residents reduce their impact on Seneca Lake through education, outreach, and demonstration projects.

In 2024–2025, the committee organized and supported several events during Lake Friendly Living Month, including a native plant tour and a well-attended presentation at the Geneva Public Library. Committee members also contributed to Pure Waters' Water Quality Symposium and other outreach efforts, helping connect residents with practical information about sustainable landscaping, stormwater management, and shoreline stewardship.

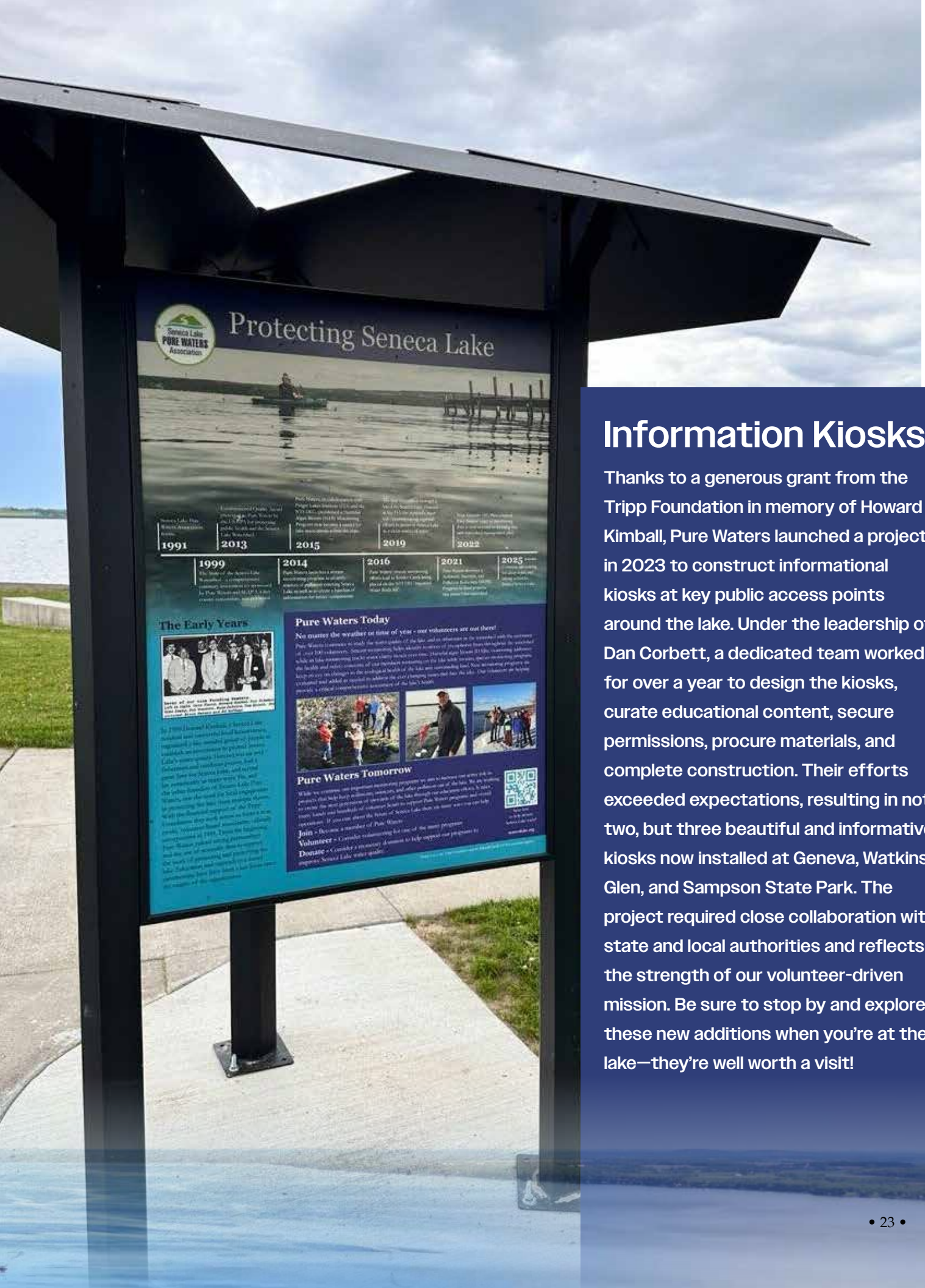
The committee also distributed hundreds of existing LFL brochures and began developing smaller, more practical handouts and lawn signs to broaden community participation in the LFL pledge.

Looking ahead, the committee is working with local partners to establish a demonstration native plant garden at Clute Park in Watkins Glen. While still in the planning stage, this project would showcase the beauty and benefits of native species and serve as an educational model for residents.

Through these efforts, the LFL Committee continues to inspire individual action while building broader awareness of how small changes at the household level can add up to meaningful protection for Seneca Lake.

Left: Pure Waters members enjoying a visit to Butterfly Effect, a native plant nursery, where we learned how native plants support pollinators and help protect water quality.

Below: Pure Waters Director Emily DeBolt and volunteer Beverly Welch tabled at Mission Zero, sharing tips for sustainable living and protecting Seneca Lake.



Information Kiosks

Thanks to a generous grant from the Tripp Foundation in memory of Howard Kimball, Pure Waters launched a project in 2023 to construct informational kiosks at key public access points around the lake. Under the leadership of Dan Corbett, a dedicated team worked for over a year to design the kiosks, curate educational content, secure permissions, procure materials, and complete construction. Their efforts exceeded expectations, resulting in not two, but three beautiful and informative kiosks now installed at Geneva, Watkins Glen, and Sampson State Park. The project required close collaboration with state and local authorities and reflects the strength of our volunteer-driven mission. Be sure to stop by and explore these new additions when you're at the lake—they're well worth a visit!

Government relations

Pure Waters engaged in several policy and partnership efforts from 2024 to 2025. The Association provided a letter of support endorsing Seneca County's grant application to upgrade the Five Points Wastewater Treatment Plant. A Pure Waters representative also participated in the City of Geneva's Drinking Water Source Protection Plan (DWSP2) process, though the plan largely overlaps with the existing Nine Element Plan and its broader impact remains to be seen.

At the state level, Pure Waters partnered with the Finger Lakes Regional Watershed Alliance (FLRWA) to support pending legislation on harmful algal blooms (HABs). We reached out to key legislators with letters of support, though a broader statewide education campaign proved beyond the resources available this year.

Senator Chuck Schumer (right) unveils a plan to combat harmful algal blooms in the Finger Lakes.

Fundraising & membership

To strengthen its membership and fundraising programs, Pure Waters engaged a consultant in Fall 2024. This effort produced a new set of processes, procedures, and a year-round fundraising calendar.

The first campaign under this system, the Annual Appeal launched in November, raised more than $62,000, a significant increase compared to $45,000 and $37,500 in the two prior years. That momentum carried into the Membership Campaign, which began in May 2025.

In addition to our fundraising campaigns, The Rose Foundation provided a gift of $52,700 to fund our new Hemlock Woolly Adelgid project, further enhancing our ability to address threats in the watershed.

We also adopted a new method of counting members, shifting from counting every known individual within a household to just household donors. By this measure, membership grew from 583 to 751 households during the fiscal year—an increase of nearly 30%. This growth underscores the impact of the new approach.

The Fundraising and Membership Committee continues to put the consultant's recommendations into action, positioning the Association to expand its reach and resources in support of our mission.

The table below illustrates the number of members in each membership category.

MEMBERSHIP TIER	#	BUSINESS MEMBERSHIP TIER	#	GIVING LEVEL
Steward	304			< $100
Partner	264	Bronze	29	$100
Protector	53	Silver	26	$250
Lake Defender	29	Gold	8	$500
Watershed Benefactor	32	Platinum	1	$1,000
Community Partner	5			
_____				
TOTAL	**687**		**64**	

Table 1 Association membership as of June 1, 2025

Pure Waters board members attending the 2024 Seneca Lake Summer Gala Dinner. Inset Photo:Seneca Lake supporters browse auction items at the 2024 Summer Gala.

Events

The highlight fundraising event of the year was the Summer Gala Dinner in July 2024, held at the Harbor Hotel in Watkins Glen. The evening was well attended and provided a strong foundation to build on in future years. Leading up to the dinner, the Events Commitee also organized a highly successful virtual silent auction, which drew enthusiastic participation and support.

In September 2024, the committee hosted the Annual Meeting at Climbing Bines Hop Farm and Brewery in Penn Yan. More than 100 members attended, and the featured presentation on "Threats to the Lake" sparked a lively and informative Q&A session.

For the second consecutive year, Pure Waters also published a Business Directory in the spring.

2024 Annual Meeting and Volunteer Recognition

This booklet featured advertisements from many of our business supporters, along with articles about the Association and Seneca Lake water quality.

Donors in Fiscal Year 2024-2025 (> $500)

Over $10,000

The Rose Family Foundation
Peggy Focarino and Bill Roege

$5,000-$9,999

Donald and Marge Kloeber
Katy Miller
Jeanne Specchio

$2,500-$4,999

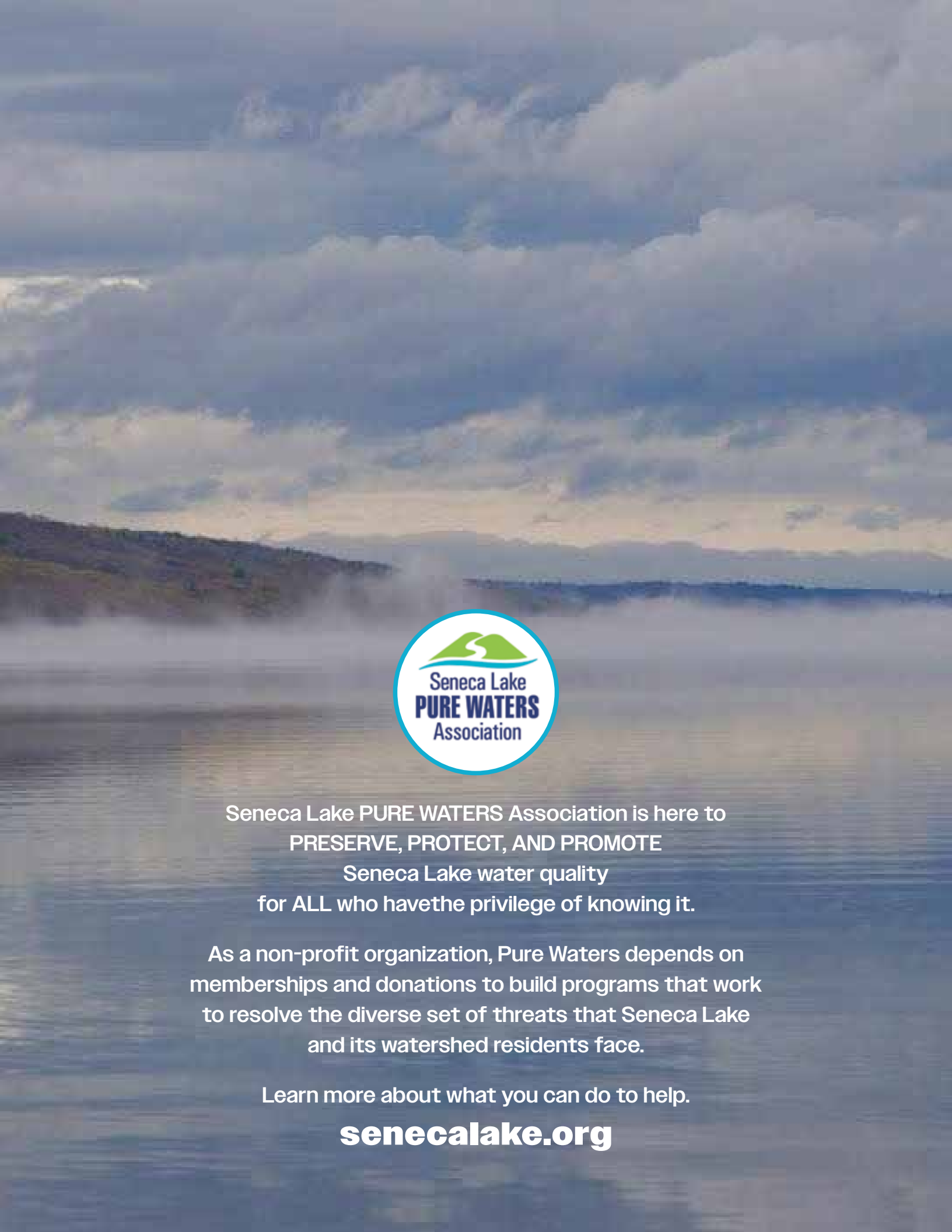
John Baldauf
James and Linda Erickson
Kim and Wendell Weeks
Jacob and Karen Welch
Linden Street Charities
Seneca Lake Order of Brewers

$1,000-$2,499

Kimball Realty Group
James Carter
Erik and Deborah Olsen
David and Sue Morse
James Nagel
Mark and Marie Gibson
Linda and Larry Sampson
David and Joan Boxall
Larry and Susan Martin
Frank and Nancy DiOrio
August J Gillon
George Victor Cohen
Mimi Gridley
Cynthia Kiss
Philip and Linda Bracht
James and Elena Crenner
Dale Hemminger
Joy and Stephen Hoffman
Anne Jardine
Robert and Christine Kalb
Jeffrey and Laurie Morris
Ed and Bobbi Przybylowicz
Ben Schwall
Barbara Vlacich
Janet and Stephen Wyckoff
Geneva Rotary Club

$500-$999

Jill and Jeff Ritter
Stuart and Deborah Messur
Tim and Rebecca Johnson
Dan and Lauri Corbett
Louise Boutwell
Dan Bleaking
Bruce Murray and Diana Lyttle
Mark and Karen Petzold
Kristin and Christopher Gusack
Bruce and Eleanor McLear
Brian Bishop
James and Bonita Mueller
Jd and Marianne Young
Maryle Ashley
Robert and Shirley Barton
Michael Buckley
Kristine Charles
Charles Craig
The Downie's
William and Ruth Grace
Stephanie Hastings
Michael L. Joslyn
John R Lemmon II
Kathie and Tim Lynch
Barbara and Glenn Miller
Stephen Rose and Barbara Zaring
Tom Schill
Joyce Toher
Tracey and Ryan Wallace
Seneca 7



Seneca Lake PURE WATERS Association is here to
PRESERVE, PROTECT, AND PROMOTE
Seneca Lake water quality
for ALL who havethe privilege of knowing it.

As a non-profit organization, Pure Waters depends on memberships and donations to build programs that work to resolve the diverse set of threats that Seneca Lake and its watershed residents face.

Learn more about what you can do to help.

senecalake.org