



PHOTO BY PEGGY DOUGLAS

## A MAJOR STEP TO IMPROVE SILVER LAKE AND LAKE GERAR

### Sallie Forman, SOLA3 Founder/President

Until the 20th Century, Silver Lake was a source of fresh water and, in the winter, ice to preserve food. Because of more than a century of urban development within its watershed, it has become a storm water retention pond for the City of Rehoboth Beach, recharged through groundwater and rainfall.

More than 22 unfiltered storm water pipes discharge directly into the lake, which are fed by over 150 in-street drains throughout south Rehoboth, which consists of 126 acres of private and public property. Lake Gerar, that once was a freshwater lake, has at least 9 Rehoboth storm drains flowing into it.

This results in contaminants from businesses (particularly restaurants), homes, lawns, streets and other impervious surfaces, as well as pet waste, being carried into the lakes by storm water, creating unhealthy conditions for humans and an abundance of phosphates, nitrates and other conditions that have resulted in massive fish kills.

Since 2010, SOLA3 has asked the City of Rehoboth Beach to develop and implement a comprehensive storm water management plan (CSWMP) as part of its Comprehensive Development Plans to address these and other environmental issues. We are happy to report that the City's Board of Commissioners (BOC) has included CSWMP as a priority in its 2020 Comprehensive Development Plan (approved in 2022).

The goal of a CSWMP is to manage and control storm water throughout the City and reduce pollutants in the lakes. This is critical as we experience significant

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**“It is a curious situation that the sea, from which life first arose, should now be threatened by the activities of one form of that life.”**

~ Rachel Carson

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flooding from more serious storms and sea level rise as the result of climate change. And, because the State of Delaware is sinking, the rate of sea level rise causing flooding is faster than in other states.

The Environmental Protection Agency states “Early and effective storm water planning and management by communities as they develop will provide significant long-term cost savings while supporting resilience, economic growth and quality of life. “

The City has hired GHD to create the plan with a draft report expected to be reviewed by the BOC later this year. The next steps will be funding to implement the plan that the BOC will consider in their 2025 fiscal year budget discussions that begin in 2024. We are grateful to former Rehoboth Commissioner Jay Lagree for his leadership in making the adoption and implementation of a CSWMP a reality.

As you read through this newsletter you will find updates on SOLA3 projects and activities that the board has been working on over the last year. I remain grateful for their time and talent dedicated to accomplishing our mission to improve the lakes' environment. On behalf of the board, as we approach Thanksgiving and the holiday season, it's a good time to thank our generous donors who support our activities. We send best wishes for safe and enjoyable holidays.



**Relying solely on historical conditions for stormwater management or other resilience planning is like using the rear view mirror to drive.**

## PLANNING FOR EXTREME WEATHER CONDITIONS

Danielle Swallow, Coastal Hazards Specialist for Delaware Sea Grant, [www.deseagrant.org](http://www.deseagrant.org)

Delaware's coast is a natural draw for residents and visitors alike. It supports a vibrant ecosystem plus recreational, economic, and quality of life benefits that are too numerous to count. Our coast is also a dynamic place that is on the frontlines of global warming. Locally, we are observing a rate of sea level rise that is twice the global average, more frequent high tide flooding on low lying roads and property, plus saltwater intrusion, erosion, and heavier rain events that are believed to be connected.

These patterns are evolving at a time of unprecedented population growth and development at the coast. Sussex County outpaces most U.S. counties for new home construction in high risk areas of the floodplain, according to Zillow and Climate Central. How we design and build our homes and communities can directly affect our exposure and vulnerability to global warming and extreme weather. To start with, we should plan with future conditions in mind. As one example, Delaware's sediment and stormwater management regulations do not factor in global warming, so designing to higher standards will help account for a rising water table, more runoff from intense rainfall, and higher tides. Protecting the natural resources we have left is recommended

because trees, wetlands, lakes, and open space are a form of critical infrastructure absorbing excess runoff, inundation, and wave energy, not to mention supporting water quality and other benefits.

Property owners can enhance local resilience by reducing impervious surfaces on their lots, maintaining the health of trees and native vegetation, and supporting comprehensive approaches to planning that factor in future conditions.

In addition, because Delaware will experience more extreme flooding or weather events in the future, it is vitally important that residents make an emergency preparedness plan, sign up for emergency notifications at [Smart911.com](http://Smart911.com), and invest in social networks that look after neighbors in need. The state has issued new evacuation zones to facilitate a timely evacuation in case of a hurricane. If an evacuation is called, coastal residents will be sharing primary evacuation routes (like Route 1) with thousands of others, and some of these routes can flood. Residents and visitors can look up their zone at [www.preparedde.org](http://www.preparedde.org) and learn other emergency preparedness tips for staying safe.

# CITIZEN MONITORING PROGRAM

**Rick Hardy, SOLA3 Treasurer**

## Testing the Waters...

In early June of this year, SOLA joined with the University of Delaware to begin testing the water of Lake Gerar, Silver Lake, and Lake Comegys as part of their Citizen Monitoring Program. University of Delaware Citizen Monitoring Program, managed by Delaware Sea Grant. Delaware Sea Grant supports research, coastal extension, and education to develop coastal economies based on sustainable environmental practices. This testing has been the most consistent and comprehensive testing of the water quality for all three lakes ever accomplished.

Volunteers from SOLA, armed with a clip board and testing equipment, performed weekly testing and field surveys of all three lakes. The first step in the process was to create a baseline from which to measure. The identified baseline sites were then visited weekly to evaluate changes. Testing included gathering data on dissolved oxygen, saturated oxygen, salinity, water temperature, water depth, secchi depth and pH. Biweekly, the volunteers are also collecting water samples that are analyzed by the University of Delaware's lab for bacteria, Chlorophyll (algae) and nutrients. We will continue to test, evaluate trends, and establish the overall health of the lakes.

From the results gained this summer, we can conclude that each lake's shows signs of an unhealthy lake. Dissolved oxygen which is the diatomic oxygen dissolved in water and is necessary for aquatic life. The established metric of dissolved oxygen in a healthy lake is 5.0 or greater and anything less creates a stressful or toxic environment for aquatic life. Except for Lake Comegys, both Lake Gerar and Silver Lake meet the standard to support healthy aquatic life. Despite the below average score for dissolved oxygen, from a visual perspective the aquatic life such as fish and turtles in Lake Comegys is very abundant. PH levels in all the lakes are well within healthy ranges. PH is used to measure how acidic or basic the water is and the established metric is 6.0 to 9.0 for typical freshwater. The EPA and State of Delaware use total enterococcus, a group of fecal bacteria, as the best indicator of the risk of getting sick (a gastroenteritis) from swimming and second contact, like kayaking, in fecal contaminated water. The safe level for swimming is 100ml. The testing results from September 15th, 2023, shows the levels of total enterococcus bacteria in all the



**L-R Rick Hardy, Jay Lagree, Ken Konesey**

lakes are **unsafe for swimming**. The key contributing factor to the high levels of bacteria is stormwater runoff. Bacteria levels are at their highest after a heavy rain. This is because heavy rain falls flush out whatever is in the storm drains directly into the lakes. The content found in the outfall consists of construction silt, decaying organic materials built up in storm drains or other pollutants such as lawn fertilizer that have made their way into the storm drains. As a follow on to our current testing, we will be measuring nutrient levels in lakes later this year. The total nitrogen and total phosphorous samples have gone to the Chesapeake Biological Lab and data from this season should be available in a few months. The data should confirm that the nutrient levels in the lakes exceed healthy levels (the lakes are eutrophic).

**Our first season of monitoring has been a big success. I would like to thank all our volunteers Jay Lagree and Ken Konesey, who gave their time and energy to collect this valuable data.** As a result of their efforts, we have identified key problems which can be addressed; SOLA will continue to support the Citizens Monitoring Program for years to come. As we gain additional data, we'll identify new opportunities to support healthier lakes. If you are interested in volunteering next season, please go to our website and let us know.

*If you would like to see all the testing results of the Citizens Monitoring Program, go to:*  
**[www.citizen-monitoring.udel.edu](http://www.citizen-monitoring.udel.edu)**

# WE HAVE A NEW WEBSITE – [WWW.SOLA3.ORG](http://WWW.SOLA3.ORG)!

**Susan Gay, SOLA3 Director**

SOLA3 is proud to announce its newly redesigned website, [www.sola3.org](http://www.sola3.org)! The new mobile-friendly, informative and beautiful website was created with the expert design and technical support of Technogober, a Delaware-based web development firm.

All of the sections on our previous website have been retained for continuity. You'll find our annual newsletters dating back to 2011, along with maps of the lakes. You can learn about the many initiatives SOLA3 has undertaken over the years and the community work we have done to improve the lakes' environment, along with photos of these activities. We offer a number of tips for how you can save the lakes through everyday best practices of optimal fertilization, reducing chemical use, increasing wildlife habitat, and minimizing stormwater runoff.

The new website contains a more robust section on News, allowing SOLA3 to keep you up to date with developments such as the Lakes Management Plan,

recent and ongoing water testing, Rehoboth's stormwater utility plans and 2022 comprehensive storm water development plan.

You can now donate to SOLA3 right online, no need to print and mail the form! We are actively looking for volunteers who will work with our board on communications, technology and educational programs. See the details on our home page, [www.sola3.org](http://www.sola3.org).

Along with the new website, we are also increasing our communications program through Constant Contact. In fact, this 2023 Newsletter has been sent to you via our new email service. Look for future communications from SOLA3, and feel free to reach out to us at any time at [saveourlakes@sola3.org](mailto:saveourlakes@sola3.org). Thank you for your interest in improving our lakes environment and your support!

# PASSAGE OF POLYSTYRENE BAN

**Jan Konesey, SOLA3 Director**

SB51, passed both Houses of the Delaware State legislature and was signed into law by Gov. Carney in July of this year. The Bill prohibits food establishments from providing consumers with ready-to-eat food or beverages in polystyrene foam containers or with single-service plastic coffee stirrers, cocktail picks, or sandwich picks. It also prohibits food establishments from providing single-service plastic straws, unless requested by a consumer.

We began the efforts in late 2019 with a formal request to the Rehoboth Beach City Commission to ban single use plastics, styrofoam and straws upon request only in the City of Rehoboth Beach. It became apparent that we

would not be successful in the City and that the best way to move forward was to join with other environmental groups, led by Plastic Free Delaware, in advocating for these bans at the State level. With the passage of SB51, SOLA3's original request in 2019 to Rehoboth law makers is now State law.

It has been a long time coming but as we all know, plastic, which is designed for durability, eventually becomes a part of the ecosystem of our lakes. The surface plastics are consumed by wildlife, entering the food chain. Researchers have also found that these plastics can absorb specific chemicals toxic to many of the lakes' inhabitants.



## UPDATE: FALL 2023 STORMWATER UTILITY TASK FORCE

**Jan Konesey, SOLA3 Director**

The Stormwater Utility Fee Task Force held its last meeting for the year on February 14, 2023. Commissioner Lagree then took our final recommendations to the Mayor and Commissioners. The first recommendation was for the City to have a Stormwater Master Plan. To that end, the City has hired GHD, an engineering firm, to develop the plan. Partial funding was provided by a grant. Their report is due in the December/January time frame, prior to annual budget meetings.

Following delivery of the plan from GHD, now former Commissioner Lagree, will reconvene the Task Force to discuss the plan and steps for moving forward. (Mr. Lagree has been asked by Mayor Mills to continue to lead the Task Force).

In addition to the Master Plan, the Committee recommended that all hard surfaces in residential and commercial properties be pervious. SOLA3 is currently gathering model language for a code mandating pervious materials.

The third requirement for the Committee's support for a Stormwater Utility was a comprehensive communication plan to ensure all property owners are familiar with the issues around stormwater and why resolving them is so urgent. Lynne Coen, the City Communication specialist, has developed the plan and has already begun implementing it. Several issues of Lines in the Sand, the citywide newsletter, are already focusing on the issue.

As we move forward with this project, look to the SOLA3 website for future updates.

# SOLA3 SUPPORTS TREES IN REHOBOTH BEACH

**Susan Gay, SOLA3 Director**

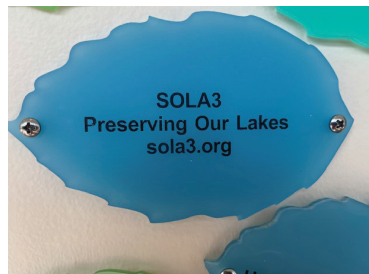
Save Our Lakes3 was the 100th donor to the Commemorative Tree Fund in Rehoboth Beach, with a recent \$1,000 donation.

Since its founding in 2004, SOLA3 has worked to improve the natural environment of Silver Lake, Lake Comegys and Lake Gerar by promoting good practices and initiatives, supporting programs that improve water quality

Trees are recognized as an essential part of the City's green infrastructure, where they not only help boost the economy, and enhance community health and safety, but also have a significant impact on the health of the city's lakes. Trees are a key component in managing stormwater runoff by reducing erosion caused by rainfall and storms, and helping create conditions in the soil that promote infiltration.

The Commemorative Tree Fund is a partnership between the City of Rehoboth Beach and the Trees and Green Infrastructure Committee. This unique program was created to celebrate nature as well as art and encourage donations to a tree-planting fund.

To honor the donations, a tree sculpture was created and installed in the City Hall Atrium.



**SOLA3's contribution is acknowledged with a custom engraved leaf, which reads "Preserving Our Lakes, sola3.org."**



**Pictured here with the new leaf are board members L-R: Sallie Forman, Tom Childers, Rick Hardy, Mike Boyd, Diane Hanson, Jan Konesey (absent Susan Gay)**

# LAKES MANAGEMENT PLAN

**Sallie Forman, SOLA3 President**

Before providing an update on a “plan” it’s helpful to understand the background that led to the need for a plan. In 2012 we realized that there is little that could be done to improve the lakes’ environment without a responsible entity that we could work with. So we paid an expert to research the ownership of these lakes (Lake Gerar is owned by City of Rehoboth). Our research revealed that Delaware has owned the two lakes since the time William Penn created the State. We presented our research to then Delaware Attorney General Beau Biden. Subsequently, we were contacted by the State’s Solicitor that the Attorney General’s office agreed with our research and that Delaware’s Department of Natural Resources and Environmental Control (DNREC) would have the responsibility to develop a lakes management plan.

Then DNREC Secretary Small met with SOLA3 and the Rehoboth Community in 2013 to outline the components of what would be in a plan and would include stakeholder participation. When Secretary Shawn Garvin was appointed to succeed Secretary Small, we met with him in early 2018 to ask that DNREC continue developing a plan. We then were surprised by a press release from the City of Rehoboth Beach in December of 2018 that they had been designated by DNREC to develop a plan along with “partners” Dewey Beach, Sussex County, DNREC and subsequently the Army Corp of Engineers. We were told that “the City of Rehoboth Beach will be requesting public feedback during the development of the plan.” As it turned out the Corp took on the development of a plan and neither SOLA3 nor the public were asked to participate.

In April of 2023, 4 years after the process began with the Corp, they provided a draft copy of a “plan” for public comment. While it provides good information on the lakes’ conditions, evaluations, goals and recommendations for each “partner”, it is not a “plan.” The responsibility for actually developing and implementing a plan is left to the partners with City of Rehoboth as the lead partner.

The Corp hosted a meeting with the community in June of 2023 to discuss their report. The many attendees (including SOLA3) expressed their concerns about the

lakes and asked questions about what improvements could be expected, that for the most part were not responded to, and that is because there currently isn’t a plan.

We are now waiting for the Corps to release its final document. We have many questions and concerns about next steps. For instance, since it’s the staffs of the partners who will likely be asked to fulfill the recommendations in the report, what time and budget are allocated for them to do this while fulfilling their normal responsibilities? is there a plan to hire a consultant for this purpose and if so how will that be funded?; to what degree is DNREC involved?; if and when will stakeholders be involved?

Our greatest concern, and frustration, is that we are approaching 12 years out since SOLA3 began this process and we still have no plan, which will take more time to complete and be ratified by all the partners, plus the time and effort to fund and implement it. Undoubtedly this will take many more years.

In the meantime, SOLA3 will continue to build on the successes we have had over the last 19 years to protect and improve the lakes’ environment, which is evident from the reports in this newsletter about our current projects and activities. We will report future updates on our newly designed Web site at [sola3.org](http://sola3.org).

## **SOLA3 BOARD OF DIRECTORS**

SALLIE FORMAN, Founder/President	2022-24
TOM CHILDERS, Vice President	2021-23
DIANE HANSON, Secretary	2023-25
RICK HARDY, Treasurer	2022-24*
SUSAN GAY, Director	2021-23
JAN KONESEY, Director	2023-25
MIKE BOYD, Director	2022-24

## **SOLA3 PARTNERSHIPS**

Draper Subdivision  
Lake Comegys HOA

Editor Newsletter – SALLIE FORMAN

# SOLA3 TO CELEBRATE 20TH ANNIVERSARY

2024 will mark 20 years since SOLA3 was founded. We are planning a not-to-miss celebration party in the summer of 2024, similar to our celebration in 2014 for our 10th anniversary at a beautiful venue, photos from which are attached. You will receive an invitation but please be sure we have your current email address. And watch for updates at [sola3.org](http://sola3.org).







# OUTDOOR SCIENCE CLASSROOM TIME!

**Jacquie Kisiel, award-winning 5th grade science teacher, Rehoboth Beach Elementary School**

Rehoboth Elementary's 5th grade students have an ideal outdoor classroom right in their school backyard – Silver Lake. Their perfect vantage point is Turtle Bridge where students can watch carp, turtles, hawks, bald eagles, belted kingfishers, egrets, and even an occasional deer, go about their day.

Even though it was June, and the excitement of summer was just around the corner, the 5th grade students of Rehoboth Elementary were ready to investigate a pressing question: Is Silver Lake's water healthy and diverse enough to continually support such a large amount of animals they typically see? After viewing numerous signs on Turtle Bridge that advise against feeding the wildlife, many students noticed that macroinvertebrates were a crucial part of the animals' aquatic food chain. Which inevitably leads to the question: What is a macroinvertebrate?

Even though turtles, birds of prey, and fish are easy to spot in this unique freshwater ecosystem, it's the presence of macroinvertebrates that are a key component of a healthy habitat and sustainable food chain. In regard to the Silver Lake location, the presence or absence of certain macroinvertebrates reveals much about the quality of the water.

The 5th graders decided to focus their concentration on the presence or absence of macroinvertebrates in Silver Lake. Thanks to continuous support from SOLA3 and under the direction of Todd Fritchman, president of Envirotech Environmental Consulting, Inc., a licensed, certified State of Delaware teacher of biological

sciences, the students examined and compared macroinvertebrate samples from Silver Lake and a controlled sample from a nearby pond.

Our students used macroinvertebrate identification sheets and indicator lists to make informal assessments about the quality of their two freshwater samples. Overall, the Silver Lake sample was lacking in large amounts of good water and fair water quality macroinvertebrates. The Silver Lake sample contained numerous poor water quality indicator macroinvertebrates such as leeches, worms, and blackfly larvae. The control sample was teeming with a more diverse invertebrate population in species and quantity. The students concluded that the control sample was more biodiverse with numerous types and large amounts of macroinvertebrates that were intolerant to pollution. Therefore, the control sample had good water quality as compared to Silver Lake.

Our students remarked at the end of the lesson that they feel honored to have participated in this water quality sampling of Silver Lake. They have recorded their findings and are actively trying to find ways to maintain larger amounts of macroinvertebrates in this freshwater ecosystem.

**Editor's Note:** After an absence of 3 years because of Covid restrictions, 2023 will mark the 11th year SOLA3 has sponsored this program. In 2019 Delaware Beach Life featured Jeanne Shook's article "Testing the Waters: Fifth graders get their feet wet as environmental researches, thanks to SOLA3 program."

# THREE LAKES, MANY QUESTIONS

This is the title of Andrew Sharp's article in the September '23 issue of **Delaware Beach Life** about the difficulty of managing issues in and around our Rehoboth lakes. It refers to SOLA3's workshop last fall that featured Steven Smaler, DNREC's director of the Division of Water, and Michelle Schmidt, Director of Conservation Watershed Planning at the Delaware Center for Inland Bays, plus interviews with Sallie Forman, SOLA3 President; Kevin Williams, director of Public Works for Rehoboth Beach; and arborist Liz Lingo.

Read the full article at: <https://www.delawarebeachlife.com/magazine/our-content/476-water-stewardship>

## EXAMPLES OF HOW THE LAKES GET POLLUTED



Contaminants from this ground water?

Runoff from construction site in Rehoboth Beach in violation of City ordinance



DNREC allows builder to pump ground water into Silver Lake unfiltered and untested.





**The strength of a community is best seen when its members unite for a common purpose.**

**What could be more important than protecting our environment?**

Volunteering is not just a feel-good activity; it plays a pivotal role in community development and engagement. It cultivates a sense of belonging and ownership. When community members come together, they share skills, resources, and a common vision. This collaboration accelerates efforts to bring about positive change.

SOLA3 needs your help to achieve its mission to improve the environment of our Rehoboth lakes. We are looking to engage volunteers in a variety of areas such as:

- **Communications:** Assisting with writing announcements, correspondence, website content and newsletter format
- **Public outreach/Engagement:** Recruiting neighbors to get involved.
- **Technology:** website development and content management
- **Educational Programs:** development and/or participation in educational programs
- **Water quality monitoring:** weekly water quality testing and data collection
- **SOLA3 Board Opportunity**

Check out our website at [SOLA3.ORG](http://SOLA3.ORG) for more details on volunteer opportunities and how to sign up! Or email [saveourlake@sola3.org](mailto:saveourlake@sola3.org) to let us know how you would like to get involved.

## SAVING NATURAL TREASURES

Your contributions are critical to our work. SOLA3 is the only environmental organization managed by all volunteers, dedicated to improving our Rehoboth Lakes. Only through the vital support from our generous community can SOLA3 be successful in accomplishing its mission. The important community-wide projects that we sponsor, such as the 2022 “Water, Water, Everywhere” workshop, our science programs with the 5th graders at the Rehoboth Elementary School, our gift to the community of the two bird identification signs installed at Silver Lake Bird Refuge, maintaining our Web site and data base, all require funding.

We have created new opportunities through which you may make donations that can have beneficial tax impact. For example, in addition to direct dollars you can contribute through all or part of your minimum distribution from your IRA, or a contribution of stock, directly to SOLA3. Of course we suggest you consult with your financial or tax advisor for expert advice.

And we have made it more convenient for you to make donations this year by clicking on the “Donate” button on our website, [SOLA3.ORG](http://SOLA3.ORG), to donate by credit card.

# welcome

## TWO NEW MEMBERS JOIN SOLA3 BOARD



**RICK HARDY**

Rick Hardy a long-time resident of Dewey Beach, was unanimously approved by the Board to serve as SOLA3 Treasurer. He has held important managerial and financial positions in the U.S. and abroad with IKEA and Deloitte & Touche. He is a former owner of Coho's Market in Rehoboth and has a Bachelor of Science in Business Administration degree from Temple University. Rick is also managing our lakes' water testing project in partnership with the University of Delaware. He succeeds Dan Payne, SOLA3's long-serving treasurer.



**MIKE BOYD**

The board also unanimously approved Mike Boyd as a Director. Mike served as SOLA3's first Vice President until 2017 and was very involved in drafting organizational documents as well as working on solutions to improve the Rehoboth lakes. He worked for the Environmental Protection Agency in the Office of Air Radiation in Washington, DC. After 34 years of distinguished service, he retired from that position in 2022.

Mike currently serves on the Boards of his professional society, the Health Physics Society (HPS), and the U.S. National Council on Radiation Protection and Measurements. In 2020, he received the HPS Distinguished Public Service Award. He has a BS in Biology and MS in Public Health from the University of North Carolina at Chapel Hill.

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## SOLA3 BOARD PLANS FOR THE FUTURE

**Diane Hanson, Secretary**

The SOLA3 board is working with Delaware Community Foundation (DCF) to develop a strategic plan and enhance our efforts to accomplish our mission. Mike DiPaolo, Vice President for Southern Delaware, led three planning sessions with the SOLA3 Board of Directors to develop a focused plan to best achieve our goals.

Among the areas we will focus on are:

- science and advocacy,
- outreach and awareness and
- organizational capacity.

The Board of Directors will now develop a comprehensive strategic plan for effectively meeting our goals over the next few months and begin to implement the plan in 2024.