



FRIENDS
OF THE LAKE

Spring 2024



Joanne Conant

Dear Friends of the Lake

We are pleased to deliver our annual newsletter summarizing our membership, events and ongoing projects involving the care and study of beautiful Lake Lillinonah. Content was provided by your executive board members along with Rebekah White, our Director of Water Quality.

A warmer-than-normal winter, thanks to El Nino, was accompanied by plentiful rain and, in the opinion of this writer, not nearly enough snow! Hopefully I'm not speaking too soon and jinxing us all... Please look at the topics below and feel free to contact us at info@friendsofthelake.org with any questions, comments, or requests. There are many events and projects that we sincerely need your help with; please volunteer!

Thank you very much for your continued membership. Please pass this newsletter along to neighbors and friends who might be interested in what we're up to. The more members we welcome, the more powerful our collective voice will be.

On behalf of your executive board,

Scott Conant, ed.

FOTL board Member and Newtown Member



2024 Events



Save the Lake Day:

May 18, Bridgewater route 133 Boat Launch, 8:30AM. Gloves, garbage bags, refreshments provided! Please wear shoes that can get soaked! Don't forget your hat and sunscreen. Always a fun and interesting day – everyone is welcome! If you have a pontoon boat you can provide, please let us know!



Back to the Dine-Around!

June 22, Details to follow. Due to popular demand, we are returning to this adventurous evening of friends, fun and food. Pontoon boats will bring you to host homes where you can renew old friendships and begin new ones. If you are interested in being a host house, please let us know! We normally have a home or two for hors d'oeuvres, a home or two for entrees, and a dessert / final destination home.

We'll need volunteers with pontoon boats also. Stipend provided to homes and pontoon owners. Special thanks to member Francie Molina for organizing this fun evening!

21st Anniversary Party!

August 8; mark your calendars! Details forthcoming....



Membership

We have a record number of members... a true complement to the success of our organization and the importance of our mission! As we enter the 2024 season, we experienced a 13% increase in memberships. There are now over 305 active members, representing 19 towns. We are so proud of this growing membership and the increasing strength our voice will have to protect Lake Lillinonah. As we approach spring, we will send friendly reminders to renew your 2024 membership (if you haven't already) and notices of our fun and interesting volunteer opportunities, events, and projects.

Thank you for your continued support & passion, and cheers to a wonderful 2024 season together!

Water Quality Update

The Water Quality Committee has continued its focus on the collection of water quality data used to assist Friends of the Lake with discovering and reporting issues to local, state and federal stakeholders. Several upgrades we are making to our water quality data collection equipment will keep them up-to-date and reliable.

We would like to increase our Citizen-Lead Monitoring program to involve more members. Our goal is to increase the amount of data collected while increasing community involvement. Additionally, we will work to monitor our invasive species and work with stakeholders to apply necessary control measures. We made some unfortunate discoveries last season but will continue to work hard so that an invasive species management plan is developed and followed. We have included some details below on each program. We look forward to another season of caring for our beautiful Lake Lillinonah.

Nutrients

Nutrient levels in the lake is a major focus of our water quality program. Nutrients enter our lake from non-point sources (the woods and watershed) and point sources. Point sources are our primary focus as they are permitted by the state and come from an identifiable 'point.' These include Municipal Wastewater treatment plants, stormwater discharges, industrial discharges, and agricultural sources. Those discharges are permitted through the National Pollutant Discharge and Elimination System (NPDES). Currently, the Kimberly- Clark Corporation (KC) located in New Milford is one of those permit holders whose permit is in the renewal process. Friends of the Lake (FOTL) is working with the Connecticut Department of Energy and Environmental Protection (CT DEEP), the agency responsible for issuance of NPDES permits. We remain hopeful that the renewal permit will have strict nutrient discharge limits equivalent to those imposed on municipal wastewater treatment plants.

GLEON Buoy

Our research buoy will be upgraded this coming season. The first is a behind-the-scenes update. Currently our buoy data is delivered to a computer located at Maywood. With an update to the buoys' logger, we will be able to troubleshoot the sensors more easily using a phone app. Additionally, we will be updating the temperature chain that collects data at each meter of depth to the bottom. The existing chain is increasingly unreliable. We are also considering an update to our water level sensor to allow for readings when the water is in deeper drawdowns. There are a few technical details to consider before moving forward with that update. We plan to continue our involvement with the Global Lake Ecological Observatory Network (GLEON) for years to come while collecting data to be used by us, the State of CT, and local and international research institutions.

CLEO

To complement the data collected by our buoy, we have a monitoring program that relies on volunteers making a few observations a few times a week throughout the summer. This is our 'Citizen-Led Environmental Observatory' (CLEO). Dr. Jennifer Klug of Fairfield University has assigned students to analyze data from this program over the last ten years and will release a report later this year. In addition, the CLEO annual analysis report for 2023 will be available later in the season. Both reports will be available on our website. In contrast to the buoy, which only indicates what is happening at a single location on the lake, CLEO gives a wider picture by collecting data from numerous locations. Thanks goes to volunteer Grant Donnelly for maintaining the Barkwood site in 2023. We would like to expand our view even farther this season, by adding new sites.



Over the years we have maintained a few long-term CLEO sites. Last summer our three longest continually monitored sites were the Rt 133 boat launch, Barkwood Point, and Shepaug River. We had previously had Lovers Leap and Barkwood Cove. This coming season, we have a replacement for the Barkwood Point site, but still need monitors for the Lover's Leap and Barkwood Cove areas. We live on a large lake and would love to add monitoring sites in 2024. Areas of interest include the S-turns, the Bridgewater or Brookfield shores between Camp Silverman and the Rt 133 bridge, the Brookfield/Newtown span just downstream from the RT 133 bridge, Pond Brook, the confluence of the Housatonic and Shepaug Rivers, and up the Shepaug River arm. This is a great opportunity to learn more about the lake and give back to your community. The duties include taking a five to ten-minute set of readings between 3pm – 7pm, on each Tuesday, Thursday, and Saturday, from Memorial Day through Labor Day. Volunteers young and old can participate. Teams are welcome too. We also need substitutes, so you can participate even if you don't have your own dock. If you are interested in joining us, please email us at info@friendsofthelake.org to be invited to a short training class in late April/ early May.

Additional deep-water monitoring is performed at five sites throughout the lake to gather data additional to the GLEON buoy and CLEO programs. Those collections begin when the buoy is installed in April and continue until October when the buoy is pulled. This monitoring is performed from a boat and includes water samples which are tested for nutrients and toxins, plus samples for cyanobacteria species identification, profiling with a handheld multiparameter sonde at each meter of depth, and CLEO monitoring. These collections are performed by the Director of Water Quality. Anyone interested in learning more about this collection can also reach out to us. We have a microscope that can be borrowed to learn about cyanobacteria species identification too.

Aquatic Invasive Species

We continue to attempt control of the population of water chestnut in Lake Lillinonah by concentrating manual removal efforts of the populations located just upstream of the lake. The Still River population required 97% less time to eradicate this season compared to our first year. This is wonderful news and proof of the value of everyone's hard work. We have over 240 hours working on the populations located in coves on the Housatonic River and in Lake Lillinonah. The Lake was successfully cleaned of all known attached plants by the end of August, thanks to LLA and FOTL volunteers. Unfortunately, the dense population on the Housatonic was pushed back, but not eliminated. Some of those plants fragmented during a heavy rain event and were seen floating in the lake. The Lillinonah Lake Authority is planning continuing removal efforts this coming season. Friends of the Lake will continue removal efforts in the Still River and Housatonic Cove. We do not expect to completely clear the cove this coming season but will focus treatment in the areas that were most affected by fragmentation. We will seek the assistance of volunteers through numerous small-scale events. Please email us at info@friendsofthelake.org if you can help! Logistics, training and matching volunteers with areas of concern will be provided.

Hydrilla was a new invasive plant discovered in the lake this past season. The invasive plant survey conducted by Northeast Aquatic Research on behalf of FirstLight Power Resources confirmed it was present in the areas just upstream from the Bridgewater Town Boat Launch down to Poison Ivy Island. Friends of the Lake hired a contractor for a day of manual removal. We will continue to work on locating any other populations and working with other stakeholders to remove populations this coming season and beyond. We are confident, with quick action and stakeholder community cooperation and contribution, that a successful management plan can be achieved. We ask that all lake users use care when operating a vessel, powered or manual, in that area to avoid fragmenting the Hydrilla, which will cause it to spread. Use the flyer attached to the newsletter and available on our website to identify it, and please follow the suggested instructions.



Milfoil and zebra mussels continue to inhabit the lake. The milfoil was heavy early in the season, but heavy rains in early July, high flow events, and significant drawdowns knocked back the population, helping to control it. Zebra mussels continue to inhabit the Lake. We will be conducting some basic monitoring this season to help us determine if some trends we are seeing in the water quality data affect the zebra mussel population. Informally, we observe that the population appears to be unpredictable each season. Some years they are seen early, some late, some years are heavy, some light, one year they died at the end of the season unexpectedly. We will utilize the same monitoring technique used back in 2014, hanging artificial substrates of the same size at numerous locations on the lake and take photographs, for comparison, throughout the season.

We are excited to see what this season will bring to us, and we are ready to apply effort where needed. The best way we can accomplish this is through an active and supportive community. Please contact us if you are interested in learning more about any of the programs we are conducting. We are open to private "field trips" and welcome all members to assist us in any of the projects we conduct. We have an "open door" on our boat and welcome you if you have a question when you see us on the lake conducting work. We look forward to seeing and talking to you out on Lillinonah in 2024.

Debris

Please find below our 2023 annual Wood Debris Survey summary. The survey data shows the amount of such debris more than doubled last year from the prior past two years, creating hazardous conditions from time to time on the lake. Heavy river flow events last season is the main contributor to this increase. FirstLight Power Resources (FLP, the lake's owner) is required by its license to remove woody debris, but these survey results show that the removal program needs to be improved by increasing efforts and introducing revised methods to remove the woody debris. Additionally, we recommend that FLP maintains the upper water level below 195' NGVD during the summer months. The volume of woody debris surveyed along our shorelines in 2023 equates to approximately 1,184 tractor-trailer loads full of debris. FOTL will continue to monitor the woody debris issue and will be reviewing alternate methods to provide future debris survey data. Executive Committee member Mike Schimenti will be reviewing and developing some of these new concepts. As always, please forward pictures of debris and any news of damage or injury caused by floating debris to info@friendsofthelake.org. All help and ideas are welcome!

Summary of Lake Lillinonah Shoreline 2023 Woody Debris Survey Data Collection

Provided by Connwood Foresters, Inc.

In September of 2023, the woody debris data was collected for 41 sample plots along the shore of Lake Lillinonah. Sample points were created in 2017 and randomly located along the shore of the lake at approximately 4600' spacing and mapped with GIS software. These plots are the same ones since 2022. The 41 plots are a 2% sample of the total length of the 39.5-mile shoreline. Each plot is 100' wide, and from the water's edge to the high-water mark. At each plot, the following was recorded: adjacent land use, dimensions of all woody debris whose large end falls within the plot, dimensions of all woody piles whose center fall within the plot, and the decay class of each piece or pile. Pieces must have a small end diameter of more than 1" and have over a half foot of length to be recorded. Forks off a main tree stem are recorded as separate pieces. Methods are based on the USDA Forest Service Guidelines: Sampling Protocol, Estimation, and Analysis Procedures for the Down Woody Materials Indicator of the FIA Program Report NRS-22.

Results, using the same adjacent land and plot size since 2022:

- Adjacent Land Use: 6 residential plots (15%) and 35 forested plots (85%)
- Plot Size: Plots average 7' deep, for a total sampled plot area of 28,300 sq. ft.
- Plot Debris: 533 pieces having 356.28 cubic feet of material, with an average of 0.67 cubic feet per piece.
- Piles: 72 piles having 12,210 cubic feet of material with an average of 170 cubic feet per pile.
- Entire Lake: Contains around 639,539 cubic feet of materials in approximately 27,126 pieces and 3,664 piles.

	2017	2018	2019	2020	2021	2022	2023
Piles	2,545	1,323	1,272	1,578	2,596	2,290	3,664
Pieces	36,338	48,960	33,743	33,336	24,277	14,505	27,126
Cubic Feet	246,320	95,321	73,025	134,068	306,015	286,720	639,539

Kimberly Clark Permit

As mentioned in our Water Quality section above, Kimberly Clark Corporation in New Milford is in the process of renewing their discharge permit. FOTL is closely monitoring the process to ensure that the permit parameters closely follow water quality guidelines issued to other point-source dischargers of wastewater into the Housatonic River and its watershed. We are slowly but surely making progress, having held discussions with FirstLight Power, the Lake Lillinonah Authority and Save the Sound to determine the best way to approach CT DEEP regarding Kimberly Clark's permit renewal. First Light is leading the charge and we will continue to push for implementing the same discharge limits that were imposed on the Danbury and Pittsfield Wastewater Treatment Plants, along with eliminating their current two week bypass in July for maintenance.

New Milford, Bridgewater and Southbury

The LLA is comprised of three members from each of the six towns that border Lake Lillinonah. They meet the first Tuesday of every month. Below is a summary of minutes from 2023:

There are currently vacancies open for one member each from New Milford, Brookfield, Newtown and Southbury. If anyone is interested, please contact the LLA at LakeLillanonahAuthority.org

Highlights from the 2023 minutes include:

The discovery of Hydrilla in the lake. The LLA has posted warning signs at all boat launches with access to the lake. In addition, they are working with FirstLight and local stakeholders to discuss the issue and develop a treatment plan. An action plan has been put into place to identify and monitor Hydrilla with a robot.

The LLA continues to be concerned about zebra mussels and water chestnuts. There is a plan for signage at all of the local boat ramps to warn and educate boaters about these invasive species. In addition, part of last year focused on additional funds being made available for the removal of water chestnuts.

The LLA has engaged legal counsel to advise them and intervene concerning the issue of discharge at the Kimberly-Clark plant.

Last year the LLA had three boats, 12 POST certified officers and 6 lake patrol officers monitoring the lake. Duties of the lake patrol include assisting boaters in distress, boat inspections for life jackets, or other safety issues, warning boaters that swimming, camping and campfires are not allowed on certain sections of the lake.

The LLA continues to monitor debris on the lake and works with the six surrounding towns as well as Friends of the Lake in an ongoing effort to reduce same



Jeff Tinley Memorial Scholarship

This scholarship was established in loving memory of our dear friend and neighbor, founding member and board member Jeffrey Tinley, Esq. As a key member of Friends of the Lake, Jeff put his legal expertise to work on our behalf to help clean up the lake and to keep it clean for future generations.

Jeff was a member of the Connecticut Bar Association; he served on the Professional Discipline Executive Committee. He was generous with his time and talents and enjoyed taking on pro bono cases, serving as town attorney for Southbury and advocating for environmental preservation. In one of his more notable battles, Jeff worked to get the discharge of phosphorus and nitrogen at the Danbury Wastewater Treatment Plant reduced. Jeff's efforts led Danbury to pay a \$100,000 fine and take measures to ensure that the city properly operates and maintains its sewage collection and treatment system to prevent further discharges of untreated wastewater into the Limekiln Brook and the Still River. As a result of these efforts CT DEEP subsequently designated these areas as "priority waterbodies" resulting in extra effort and focus on cleaning them up.

A \$1,500.00 scholarship will be awarded to a high school senior/college/grad student studying at a two- to four-year accredited institution. The student must demonstrate an interest in a field of study related to law or environmental sciences. Students must be a resident of one of the six towns bordering Lake Lillinonah. Applicants must apply by June 30. An application form is available online at [Friendsofthelake.org](https://friendsofthelake.org/-jeff-tinley-scholarship-application). Here is the link: <https://friendsofthelake.org/-jeff-tinley-scholarship-application>

The scholarship winner will be announced during the Friends of the Lake anniversary meeting each August.