

Geneva Waters

Fall 2023
Volume 37, No. 2

Geneva Lake Environmental Agency

Our Mission:

The Geneva Lake Environmental Agency is determined to maintain Geneva Lake's resources by protecting, preserving and enhancing a desirable lake and watershed quality.



Dear Geneva Lake Enthusiasts,

The Geneva Lake Environmental Agency (GLEA) is proud to send you this newsletter outlining the recent activities and programs undertaken by GLEA staff and local municipalities to preserve and protect the waters of Geneva Lake.

Inside these pages you will read about the Clean Boat Clean Waters program; the new CD3 Boat Cleaning units at boat launches around the lake; the new Chapter 30 ordinance passed by Fontana, Lake Geneva and Williams Bay; and the results of several environmental research projects including the evaluation of local fisheries in the lake, growth of the Starry Stonewort population, and others.

The GLEA has a lot of successes under its belt, but a recent report has caught our attention as it outlines several threats to the ecological health of our lake. There is a lot of work yet to be done. As the stewards of Geneva Lake, it is our collective responsibility to heed these warnings and work together to protect and preserve the ecosystem for future generations.

In closing, the GLEA Board voices a sincere “Thank You” to the GLEA staff for its commitment to the pride of us all, Geneva Lake. For more information on any of the items you read about in this newsletter, please visit our website at www.gleawi.org, or email us at info@gleawi.org.

Regards,

Patrick “Pat” Kenny
Chair, GLEA



“Thank You” Geneva Lake Association and Lake Geneva Garden Club

The Geneva Lakes Environmental Agency extends its heartfelt gratitude to the Geneva Lake Association and the Lake Geneva Garden Club. Their generous grants helped fund the 2023 aquatic plant survey conducted this past summer which has allowed the GLEA to further its mission of preserving and protecting the pristine beauty of Geneva Lake's aquatic ecosystem. We are deeply appreciative of their commitment to environmental conservation and their contribution to our vital work.

Thank you for making a difference!



Geneva Lake Environmental Agency 2023 Program Highlights

- The GLEA received a DNR surface water grant to purchase four CD3 Roadsides Boat Cleaning Units. These units have been installed in Williams Bay (2), Lake Geneva (1), and Fontana (1) .
- The GLEA cost-shared and supported the Clean Boats Clean Waters program with local municipalities. This program logged more than 900 hours of research to help track transient boaters' habits in order to develop plans to prevent the spread of invasive aquatic plants and animals.
- A nearshore fisheries survey was conducted and identified two species of concern within Wisconsin. Several species were found that had not been seen since the first nearshore fish survey in 1978.
- The GLEA continued to actively monitor the Starry Stonewort Populations with a Launch Site and Sub PI Aquatic Plant Point Intercept Survey conducted to monitor the Starry Stonewort populations. SSW was found further east and in deeper water this year. GLEA will continue to investigate ways to limit the impact of Wake boats in the spread of this and other invasive species. (Note: There is scientific evidence that enhanced wake boats are negatively impacting all aquatic life.)
- The GLEA deployed substrates to monitor the Zebra Mussel population.
- The GLEA worked with the DNR and the Villages of Williams Bay and Fontana, and the City of Lake Geneva to adopt a local Chapter 30 ordinance allowing local municipalities to enforce fines for weeds found on trailers.
- The GLEA worked the City of Lake Geneva and Bigfoot State Park to address a drainage culvert issue.

GLEA CD3 Program Helps Reduce Spread of Aquatic Invasive Species

You may have noticed some new equipment located around the lake at area launches. During the summer of 2023, the GLEA installed four stationary CD3 units at three municipal launches around Geneva Lake. One is in Lake Geneva, one in Fontana, and two in Williams Bay. The goal of the CD3 unit is to assist boaters in removing all aquatic plants and animals from boats and trailers to prevent the spread of aquatic invasive species. The four stationary units have replaced the large traveling unit, introduced in 2021.



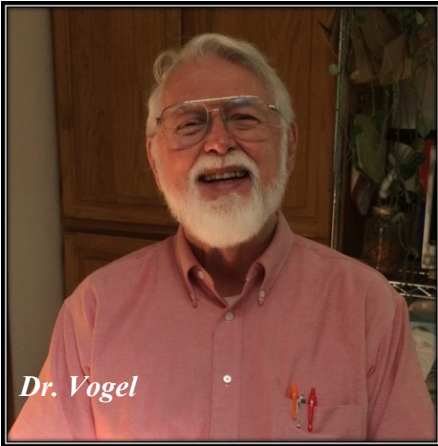
A QR code survey was posted on each CD3 unit with the hope that usage could be tracked upon the boater's completion of the survey. It appears the Fontana had the most interactions with the unit. Unfortunately, the QR code survey had limited completions during the June 9-September 24 period. The GLEA is researching ways to accurately monitor the usage of these units for the 2024 boating season.

If you used the CD3 unit this summer and didn't fill out the survey, please complete it for us now by scanning the QR code below or clicking on the following link [CD3 Survey - Google Forms](#)



Unveiling the Challenges of Geneva Lake's Ecosystem: A Closer Look and the Path Forward

The pristine waters of Geneva Lake, nestled in the heart of our community, have long been a source of beauty, recreation, and inspiration for all who call this region home. However, a growing concern about the overall ecological condition of the lake has caught the attention of a passionate advocate, Dr. Allan Hayes Vogel.



GLEA has had a long-standing contract with ZP's Taxonomic Services to do analysis of the zooplankton population. Dr. Vogel, with ZP's Taxonomic Services, has been involved in monitoring Geneva Lake's zooplankton populations for years and he is raising important alarms about the state of our beloved lake. His concerns are rooted in the recent collapse of rotifers in Geneva Lake. Rotifers are an important part of the freshwater zooplankton, being a major food source and with many species also contributing to the decomposition of soil organic matter.

While rotifers may not be a keystone species, they are critical ecological indicators, and their sharp decline is a warning sign that all is not well in our aquatic paradise.

Dr. Vogel shared his insights on several items.

1. The Presence of *Ergasilus* and Its Implications

Ergasilus, a parasite of fish, does not directly contribute to the decline of other zooplankton in the lake. However, its presence raises questions about the overall health of Geneva's fisheries. This suggests that there may be underlying issues that require attention.

2. Zebra Mussels and Their Impact

Zebra mussels, an invasive species in the lake, are known to compete for algae with other aquatic herbivores and directly prey on rotifers. Their presence poses a significant challenge to the lake's ecosystem, affecting not only the rotifer population but also the balance of other key species.

3. Protecting Lake Ecosystems and Mitigating Invasions

While recreational use of the lake can impact the ecosystem through the introduction of invasive species, control measures are straightforward. Learning from examples such as the spiny water flea in the Great Lakes region and research on Diamond Lake, Oregon, managing invasive species is a feasible task. However, it often requires concerted efforts, patience, and education to prevent human-related issues.

4. Climate Change and Its Effects

Lakes are considered the third most sensitive habitat to climate change, trailing behind only rainforests and coral reefs. Over the last three decades, increased temperatures have significantly altered lake seasonal cycles and ecological characteristics, particularly in temperate latitudes.

5. Increased Nutrient and Pesticide Runoff

Dr. Vogel regards climate change, zebra mussels, and increased nutrient (and pesticide) runoff from homeowners and agriculture as the three biggest impactors on Geneva Lake. Neonicotinoids, a new class of pesticides, have been linked to collapses in zooplankton abundance.

The Path Forward for a Healthy Geneva Lake

Dr. Vogel emphasizes that it is essential for the local population and governments to understand the challenges facing Geneva Lake. Most of these issues are technically addressable from an environmental perspective. However, the biggest challenge lies in political will and public determination. Better control of the zebra mussel population and halting nutrient runoff into the lake are essential to maintaining any kind of fishery. Additionally, considering fish species that are more tolerant of warmer waters is a practical approach.

As outlined by Dr Vogel, Geneva Lake faces multiple ecological challenges, with invasive species, nutrient runoff and climate change posing the most significant threats. However, there is hope. With collective action, a shared commitment and responsible stewardship, we can work towards restoring and preserving the beauty and ecological health of our beloved lake. We believe that common lake management issues can be resolved, provided there is the public will and determination to do so.

Clean Boats Clean Waters Program Surveys Boaters at Area Launches

The GLEA supported the Clean Boats Clean Waters Program (CBCW) that surveyed boaters on use and prevent the spread of aquatic plants and animals. Consistent with last year, all five public launches (Fontana, Williams Bay, Lake Geneva, Linn, and Hillside) were stationed with CBCW inspectors.

The main survey question asked of boaters was “Has your boat been used on a different waterbody in the past five days?” Tracking the transient boaters helps to understand the movements of aquatic invasive species (AIS) and potential threats to Geneva Lake. “As watercraft or trailers move from waterbody to waterbody, plants and animals can be easily transported if precautions like cleaning or removing organisms are not taken” says Jacob Schmidt, GLEA Executive Director. Of the boaters surveyed, 24% were used on a different waterbody in the past five days on a total of 45 different waterbodies reported.



In order to fulfill its DNR grant, GLEA needed to complete 200 hours of survey time at each launch, with Linn & Hillside acting as one launch. This year the Village of Fontana, the Village of Williams Bay and the City of Lake Geneva partnered with GLEA to train their launch staff. The boat launch attendants at each launch were responsible for taking data on recent visits to other lakes from launching boats. The Linn & Hillside launch was staffed by GLEA.

This summer, 906.5 survey hours were logged collectively across the launches. Williams Bay completed 260 hours, Fontana completed 226, and Lake Geneva completed 220. Linn and Hillside accumulated 117 and 83.5 hours, totaling 200.5 hours. Throughout the program, a total of 1,101 boats participated, and 2,445 people were reached as part of the survey. Fontana launch had the most boats surveyed at 386 with Williams Bay second at 284 boats.

Thank you to Wisconsin DNR, our CBCW inspectors, Harbormasters, and everyone who contributed their time and efforts to make this program successful.

Dedication Ceremony for New Stationary Boat Cleaning Station in Williams Bay

On July 7, 2023, the GLEA held a dedication ceremony to officially open for usage the new stationary CD3 Roadside unit at the Williams Bay public boat launch. “This is a great step toward preventing the spread of aquatic invasive species around our lake, making the acquisition and installation of the Williams Bay CD3 Roadside Unit our third on Geneva Lake,” said Patrick Kenny, Chairman of the GLEA. “We are grateful to the Wisconsin Department of Natural Resources for their invaluable support and funding that made this initiative possible.”

CD3 stands for Clean, Drain, Dry, Dispose. The CD3 Roadside Units are stationary boat cleaning stations designed to help prevent the further spread of Aquatic Invasive Species (AIS) and further the protection of our water resources. Patrick Siwula, Southeast Region AIS Coordinator at Wisconsin DNR, provided a statement about the DNR’s efforts toward aquatic invasive species. “The Wisconsin Department of Natural Resources is pleased to have provided support for the installation of CD3 Roadside Units around Geneva Lake through the State Surface Water Grant program. This program provides over \$6 million annually to governmental bodies, lake associations/districts, non-profit groups, and other entities for surface water protection, management, and restoration. The CD3 Units at Geneva Lake were funded through the ‘Aquatic Invasive Species (AIS) Supplemental Prevention’ grant category, which are available for projects that reduce the spread or risk of introduction of AIS. The CD3 Roadside Units are stationary cleaning stations that include educational information/prompts along with tools that can be used to help lake users comply with the required Clean/Drain/Dry prevention steps. Taking these simple steps when recreating on waterbodies is paramount to preventing the spread of AIS and protecting the health of our water resources. We are grateful for GLEA’s partnership on this project and look forward to collaborating on other projects in the future. For more information on the Surface Water Grants program, please visit: <https://dnr.wisconsin.gov/aid/SurfaceWater.html>”

The GLEA would also like to thank elected officials, municipal staff, and all who came to support the purpose and installation of the CD3 Roadside Units.



CD3 Ribbon Cutting Ceremony

Pictured From Right to Left: Mary Jo Fesenmaier, City of Lake Geneva Alderperson and former Geneva Lake Environmental Agency (GLEA) Vice Chairperson; Patrick Kenny, Village of Fontana President & GLEA Board Chairman; CD3 Roadside Unit; Bob Morava, Geneva Lake Association Secretary; Rob Umans, Village of Williams Bay Trustee and GLEA Board Member; Jake Schmidt, GLEA Executive Director; Carol McAdam, GLEA Board Member Town of Linn Citizen Representative; Steve Russell, City of Lake Geneva Harbormaster and Village of Williams Bay Trustee. Not pictured: Alyson Wisnionski, GLEA Lake Manager Intern.

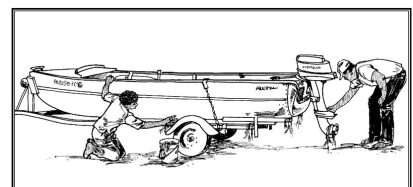
Fontana, Lake Geneva and Williams Bay Vote to Protect Our Waters

The municipalities of Fontana, Lake Geneva and Williams Bay have adopted the Chapter 30 ordinance. The ordinance protects Geneva Lake waters from aquatic invasive species by enforcing the removal and drainage of all aquatic plants, animals, and water from watercraft or trailer. This applies to all vehicles entering and exiting the water and driving on the road.

GLEA worked to pass a draft stating that local municipalities will now receive the revenue from tickets issued under Chapter 30. This provides a strong incentive for local en-

forcement of the new ordinance to protect Geneva Lake against aquatic invasive species.

The GLEA will be working with our Local DNR Conservation Warden to set up training for local police departments that will take place in spring, 2024.



2023 Boat Count Down from 2022

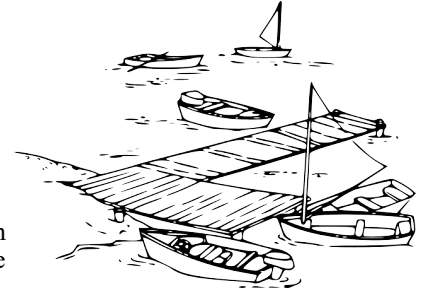
The GLEA Annual Boat Count was conducted on August 2, 2023, from 8:00 AM to 12:15 PM. There was a crew of 5 people counting motorized boats, sailboats, personal watercraft, and nonmotorized vessels, docked and moored on Geneva Lake. Counts from in-out services were gathered at a later date and included in the survey.

The GLEA thanks Mr. Charles Colman for taking GLEA staff out on his boat in order to conduct the survey.

In 2023, there were a total of 5,167 watercraft docked, moored, or available for in-out service on Geneva Lake. There has been an increase in the percentage of motorized boats by 19% since 2022, and the number of personal watercraft, like jet skis and wave runners, has almost doubled since last year.

Breakdown of All Watercraft Docked, Moored, or Available for In-Out Service

Motorized boats: 3,970 (77%)
Sailboats: 228 (4%)
Personal Watercraft: 715 (14%)
Nonmotorized Vessels: 254 (5%)



This year's count is down 424 boats from last year's count of 5,591 boats. Boats in-use on the lake are not included in the count. The GLEA knows that the boats in use can impact the annual count.

This year, the total amount of watercraft available for in-out service was 1,604 or 31% of all watercraft, including motorized boats, sailboats, personal watercraft, and nonmotorized vessels. This is a large increase in the percentage of watercraft available for in-out service (14% in 2022) and almost double the number of watercraft (805 in 2022) compared to last year.

Breakdown of All Watercraft Available for In-Out Service

Motorized boats: 1,411 (27%)
Sailboats: 87
Personal Watercraft: 14
Nonmotorized Vessels: 92

Four communities share Geneva Lake's 112,854 feet of shoreline with the majority in the Town of Linn (48%). The Village of Fontana, Village of Williams Bay, and City of Lake Geneva each have 19%, 17%, and 16%, respectively. Consistent with last year, the lake-wide boat density is one boat per 23.7 ft. of shoreline (0.042 boat/ft. shoreline).

Breakdown of All Watercraft Totals by Community

Fontana: 1,701 (883 available for in-out)
Williams Bay: 1,393 (721 available for in-out)
Linn: 941
Lake Geneva: 660

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Nearshore Fisheries Survey



In late June, GLEA collaborated with retired DNR staff to conduct a comprehensive Nearshore Fisheries Survey of Geneva Lake. This marks the fourth iteration of the survey, with previous assessments conducted in 1978, 2004, and 2018. A total of 18 sites were surveyed to gain insights into the nearshore fish population. The findings revealed the presence of various species including gar, darter species, bass, panfish (bluegill, sunfish, perch, rock bass), bullheads, and killifish.

Key Highlights

1. **Diverse Species:** The survey identified a total of 20 different species, surpassing the counts from the 2018 and 2004 surveys but falling short of the 1978 survey.
2. **Rediscovered Species:** Noteworthy findings include the rediscovery of longnose gar, creek chub, and johnny darter, which had not been recorded since the initial 1978 survey.
3. **Environmental Factors:** Fewer fish were observed in areas with wave-impacted shorelines and dense growth of filamentous algae.
4. **Pier Impact:** An interesting correlation emerged, showing that an increase in the number of piers corresponds to a decline in small, environmentally sensitive fish populations. The site with the highest biodiversity was the former Yerkes Observatory lakefront property, which remains one of the few natural shorelines around the lake.

According to DNR standards, Geneva Lake is classified as a High-Quality Water Body. However, scientific evidence suggests that the density of piers, heightened wake activity, and chemical herbicide treatment are detrimentally impacting critical habitats. To preserve Geneva Lake as a High-Quality Water Body, it is imperative that steps be taken to safeguard its ecological integrity.

The nearshore fish survey uncovered troubling evidence of severe disruptions to the spawning habitats of nearshore fish species due to increased wake activity and pier density on the lake. These findings raise concerns that these impacts could have far-reaching consequences, affecting the entire nearshore ecosystem. As a response, GLEA is actively seeking a DNR Surface Water Planning Grant for 2024.

The complete 2023 report can be accessed through our website at www.gleawi.org.



GLEA Educates Public About Early Summer Fish Kills

HAVE YOU NOTICED AN INCREASE IN DEAD FISH ON GENEVA LAKE? US TOO.

SHORT ANSWER: WATER IS WARMING UP QUICKLY

The Geneva Lake Environmental Agency and Wisconsin Department of Natural Resources are aware of the amount of dead fish people are seeing around the lake. The GLEA and DNR will both be out on the water assessing the situation.

Fish kills this time of year are a naturally occurring cycle when the water warms up too quickly. Wind direction also plays a significant factor in this, as it will push the dead fish in a specific direction. The GLEA has a contract with US Geological Survey for water quality testing, as well as doing our own, which give results well within the normal ranges for this time of year. There is no evidence supporting anything other than a natural cycle. While it is unfortunate and sad, sometimes the best thing to do is let the ecosystem stabilize on its own! If you have additional concerns, please contact our office.

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WI DNR Press Release

Early this past summer, the GLEA created a special flyer to educate our community on the increase of dead fish that were seen around the lake. This phenomenon was due to the ecosystem stabilizing itself in response to a rapid increase in water temperature.

Area Students to Guess “When will Geneva Lake Freeze?”

As in past years, the GLEA is inviting all Geneva Lake area children in grades kindergarten through eighth grade to enter the annual Ice-On contest. The contest asks area children to guess what date they think Geneva Lake will freeze over completely. “Our goal is to encourage the students to view how weather affects the lake and for them to develop an understanding relationship with the lake,” says Jake Schmidt, GLEA Executive Director.

The top three students who pick either the date of complete ice-over or are closest to the complete ice-over date will receive a gift certificate from Clear Water Outdoor in Lake Geneva, plus an educational and interactive ‘My Lakeshore Field Journal,’ published by UW-Extension. Winners of the 2022-2023 contest were Avery Stefaniak, 1st grade, Javier Mendoza, 1st grade, Avery Brunning, Kindergarten, Jaxon Hoagland, 3rd grade, all of Brookwood Elementary and Ksenia Hermann, 1st grade, of Star Center.



Contest information and entry forms will be released in early November.



Say NO to Phosphorus Fertilizer –Save Geneva Lake



Phosphorus is the most problematic pollutant in the lake. Most lawns in our area don't need phosphorus. When lawn fertilizers run off into the Geneva Basin, they feed the unsightly, smelly and potentially toxic algal bloom and promote the growth of weeds in the lake.

**USE OF PHOSPHORUS FERTILIZERS IN THE GENEVA LAKE
SHORELINE AREAS IS
REGULATED.**

Coming for Next Year—2024 Projects

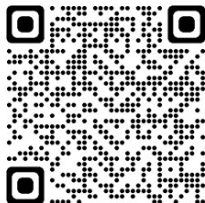
The Geneva Lake Environmental Agency would like to share with you some of the projects being planned for next year.

- ◆ Continuation of Clean Boats Clean Waters, and CD3 Roadside units and monitoring.
- ◆ Conduct various aquatic surveys to assess how wake enhancement affects the littoral zone's overall health. We hope to partner with local schools on this project to provide students with hands-on learning opportunities. We are actively applying for a DNR Surface Water Grant to help fund this project.
- ◆ Conduct our Annual Docked and Moored Boat Count
- ◆ Water Quality Testing throughout the summer at Local Beaches
- ◆ Funding the United States Geological Survey (USGS) Water Quality Monitoring Contract enables us to collaborate with USGS for the collection and analysis of profiles at different depths, encompassing data on nutrients, zooplankton, and temperature.
- ◆ Zebra Mussel Substrate Counts
- ◆ Host and conduct training for Local Municipalities Police Departments adopting local AIS enforcement.
- ◆ Sponsor our Ice-on contest and track ice data.
- ◆ We continually work with our local municipalities to address Geneva Lake issues and look forward to having you continue to follow along with us while we carry this momentum into 2024.

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