Geneva Waters

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"The Kissing Rock" Conference Point By Fred Noer

Geneva Lake Environmental Agency Quarterly Publication

Featured in this issue:

A Wet & Cold Spring, Lake Level, Starry Stonewort, Big Foot Creek Watershed Study, PFAS, Aquatic Plant Surveys, Keeping it Blue-Reducing Phosphorus in our Lakes, Lake Notes

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.

https://www.genevalakemanagement.com/

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A WET AND COLD SPRING

Spring has always been a season of change. This spring certainly was cool and wet. Every year we get a late snowfall in April that reminds us of winter's last grip on us. This spring brought us two late snowstorms, the first April 14 and the second April 27. Fortunately, with longer periods of sunlight spring persevered, and the snow didn't stay around long.

Gardeners and farmers have been frustrated with the cool, wet weather and the delay the weather has caused in planting. It was recently heard that as of the last day of May only about 47 percent of the state's corn crop was planted.

The cool weather has helped keep the flowering shrubs and bulbs hanging around a bit longer than normal. Wet conditions made for good mushrooms in the woods. The moisture is present for

growth. Now all we need are sun and warmth – but not too much heat, as soon enough we will be facing the hot, humid weather of summer.

Precipitation for the spring has been 13.5 inches, 5.12 inches above normal, thanks to May's total of 8.47 inches, more than double the 34-year average precipitation for May of 4.1 inches. Several storms during May were very intense in which 1½-2 inches of rain fell in less than two hours. From Wednesday night, May 22 to Friday afternoon, May 24 more than 2.85 inches of rain fell.

Saturated soil conditions, along with fields without vegetation, have resulted in heavy sediment loading to Geneva Lake. Attached to the sediment, no doubt, was phosphorus, a lake's worst enemy. Spring has been hard on the lake.

The May 2019 total precipitation of 8.47 inches is the second highest May precipitation in the last 34 years. It is second only to the 9.57 inches in 2004. Starting with the 2018 wet autumn, the last 12 months (June 2018-May 2019) have brought us a total of 51.9 inches. Half of those months we have had more than five inches of rain.

LAKE LEVEL

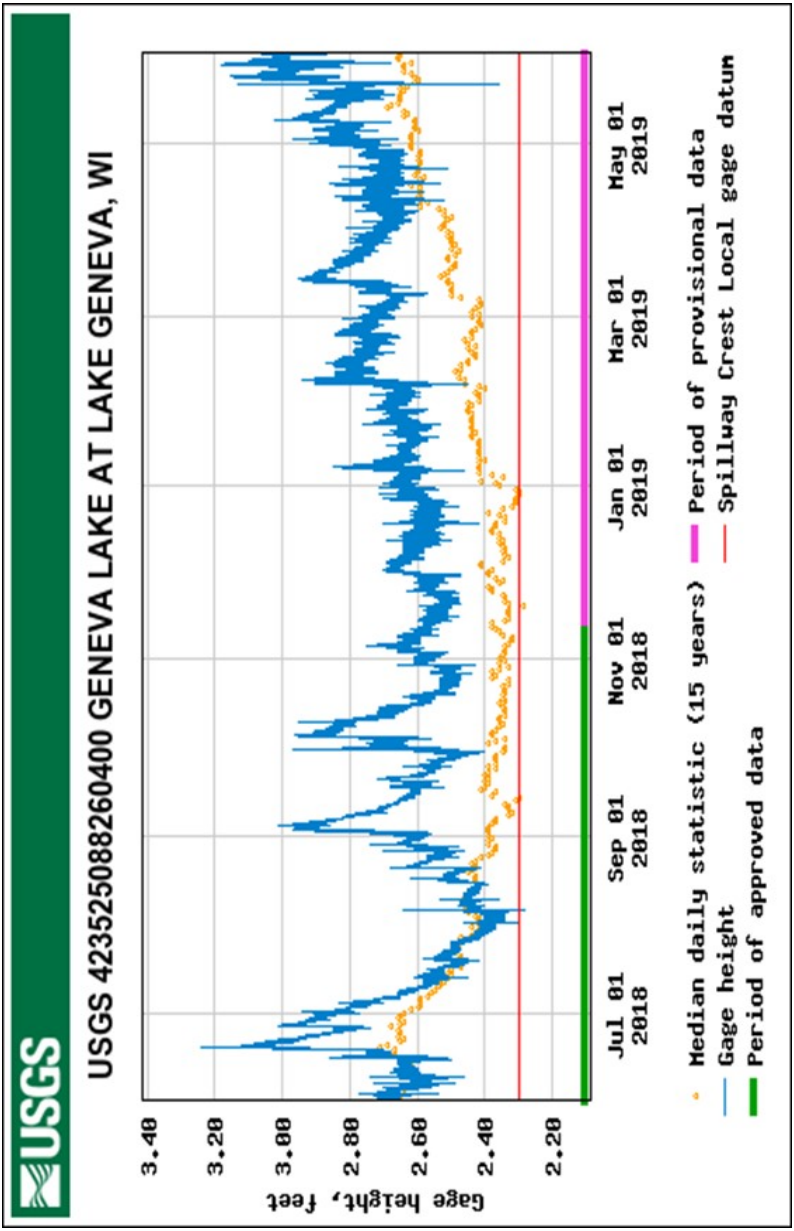
With all the rain in the last 12 months, the lake level is high. It has been above the spillway crest and the 17-year average the last three months. The spillway crest elevation is 864.18 feet NAV-D88.

The amount of water going over the spillway and through the

culvert under Center Street is one of the tools used as a guide in managing lake level. If that culvert is running at or near full, opening the outlet gates will only add more water to that culvert, and this water would need to go through the Main Street culvert. If the Center Street culvert is full or nearly full, the gates at the millrace are opened to release water through a different channel to the White River. The gates at the main outlet are now open.

The lake level figure shows very distinct Geneva Lake responses to rains. The May 22-23 rain resulted in an increase in lake level of approximately three inches (150 million gallons per inch). The heavy nighttime rain of May 29 also resulted in an increase in lake level of more than three inches.

What is interesting is the way the lake drops during the beginning of a major storm and then rises. Although some of the rise is from the precipitation, the drop is from the winds and pressure changes that precede the precipitation.


USGS
USGS 423525088260400 GENEVA LAKE AT LAKE GENEVA, WI
Gage height, feet
3.40
3.20
3.00
2.80
2.60
2.40
2.20
Jul 01 2018
Sep 01 2018
Nov 01 2018
Jan 01 2019
Mar 01 2019
May 01 2019
Median daily statistic (15 years)
Gage height
Period of approved data
Period of provisional data
Spillway Crest Local gage datum

STARRY STONEWORT

Last August Starry stonewort (SSW), a new aquatic invasive, was found in Geneva Lake, specifically in the Trinke Estates lagoon on the southeast side of the lake. Because the invasive was found in only one isolated area at a low density it was decided to attempt to dredge the area as soon as possible. Initially it was hoped dredging could start as soon as the ice went out and be completed before Memorial Day. Unfortunately, for several reasons, primarily not having an approved disposal site for the dredged spoils, things didn't work out for a spring dredging. A fall dredging is scheduled.

This summer the infested area will be chemically treated twice to kill the vegetative part of the plant. Each treatment will result in the lagoon being curtained and closed off for 10 days. The first treatment date was set for June 18. This chemical treatment does not affect the reproductive portion of the plant, the bulbil, which is buried in the sediment.

That is why dredging is vital to controlling and eliminating SSW from an area.

To keep boats away from the known location of SSW plants, caution buoys have been placed at key locations in the lagoon. Owners of boats moored in the first bay of the lagoon where the SSW has been identified have agreed to relocate their boats out of the lagoon for the summer. This will reduce the possibility of those boats carrying SSW or its reproductive bulbils out into the lake.

During the summer several lakewide plant surveys will be conducted to identify if SSW has been established at any other locations in Geneva Lake. A point-intersect aquatic plant survey identifies specific sampling points based upon a grid will be dune in July. A shoreline meander aquatic plant survey also will be con-

ducted along the whole shoreline during July. There will also be some monitoring of the chemical treatments to assess the effectiveness of their application.

Shortly after Labor Day the lagoon will be curtained off and dredging will begin. Dredged spoils will be pumped to a dewatering site and spend the next six months dewatering. It is anticipated that by next Memorial Day the dredging, dewatering, and site reclamation will be completed.

We caution all boaters, anglers, and lake users to stay out of the lagoon. That may be an inconvenience, but it is only for this summer and is for the greater good of the lake. If SSW gets into the lake, our management approach will most likely shift from eradication to containment, and we will have SSW in Geneva Lake for good.

The Geneva Lake Environmental Agency thanks Trinke Estates Property Owners Association, Lake Geneva Country Club, the Town of Linn, State of Wisconsin DNR, all the lakeside communities, and all the others who have been instrumental in working toward a solution to this lake-management effort. Geneva Lake is a healthy lake and has survived aquatic invasive species in the past. But this infestation should not be taken lightly. How many times can an invasive get into Geneva Lake and become established before the consequences become substantial?

BIG FOOT CREEK WATERSHED STUDY

With the help of a State of Wisconsin DNR grant, an Environmental Education Foundation grant, and the efforts of several Badger High School students, hopefully we will have a better understanding of why the Big Foot Creek discharges red water just south of Big Foot Beach Park. The study involves sampling the creek at several locations during the summer and fall to identify water quality at different locations.

For years Big Foot Creek has discharged reddish/orange water into Geneva Lake at the east end of the lake. It is suspected that the color comes from iron in the water. Although that may be an aesthetic issue, there may be more problems hidden unseen in the water. Past studies have shown that the discharge water can have very high phosphorus concentrations and very low oxygen levels.

Five students and two teachers have been hired by the GLEA under an Environmental Education Foundation grant to collect samples, measure flow and discharge, and conduct lab analysis of samples collected from the creek and groundwater. Students involved in the study are Yeager Borchert, Katie Porubcan, Maddie

Krien, Emily Sheen, and Katie Spende. They will be working under the supervision of Badger teachers Taylor Hennlich and Corinne Grossmeier.

PFAS

In his welcoming address at the "Keeping It Blue" workshop, Jim Ambs, DNR assistant deputy secretary, recently referred to the new challenge of controlling PFAS in our environment. PFAS is a family of nearly 5,000 synthetic chemicals that include PFOS and PFOA. They are extremely persistent in the environment and in our bodies. PFAS is short for perfluoroalky and polyfluoroalkyl substances. The U.S. Food and Drug Administration confirmed that PFAS chemicals have made their way into the U.S. food supply.

PFAS chemicals have been used by various industries because of the chemicals repel oil and water. The chemicals have been manufactured since the 1940s and can be found in non-stick products, stains, paints, cleaning products, food packages, and firefighting foams. PFAS are often called the forever chemical because of their persistence.

We are still learning of the health impacts of PFAS. We know there are many different chemicals that fall within the PFAS group. The average person should be aware of PFAS and their wide use. Exposure to high enough levels of PFAS could be linked to an elevated risk for several diseases. People exposed through their drinking water are a source of concern, experts say. But more research is needed —and it is unclear exactly what the threshold is for exposure that causes harm.

PFOS was voluntarily phased out of production in the United States by 3M, the main manufacturer, starting in 2000. In 2006,

PFOA began to be phased out as well. PFOA and PFOS are no longer manufactured or imported in the United States, but similar replacement chemicals such as GenX remain. The FDA said it's committed to better understanding the role of PFAS in food.

AQUATIC PLANT SURVEYS

With the discovery of starry stonewort (SSW) in the Trinke Estates lagoon, the question is often asked, “Is it anywhere else in the lake?” A plant survey last fall around the lake access sites did not find SSW in those areas.

A couple of plant surveys will be conducted this summer to confirm the limited distribution of SSW. Normally, plant surveys are done once every five years. Because of starry stonewort’s ability to spread and the significance of finding it at another location, two separate lakewide plant surveys will be conducted this summer.

Both surveys, scheduled for July, take a different approach to looking at the plant community. Both surveys will survey the lake's area where plants can be found. This is generally defined by how deep the light penetrates the water. Geneva Lake's past surveys have found that beyond a depth of 42 feet plants cannot survive due to low light conditions.

A point intersect survey conducted in 2015 had sampling points every 50 meters for a total of 2685 platted points. The 2015 survey found a total of 656 sampling sites with plants out of a total of 786 sites sampled. One of the aquatic plant surveys conducted this summer will be like the past point intersect survey. However, there is discussion that the distance between the sampling points may be shortened.

A second aquatic plant survey will be conducted this summer that takes a bit of a different approach. It is called a meander survey and involves the random sampling with a rake of the plant

community at locations between the sampling points of the point intersect survey.

Although we have yet to find starry stonewort at any other locations, there is a certain amount of uncertainty of its distribution because of the size and activity on the lake. With the survey last fall and the two surveys this summer, we will have a higher certainty of SSW distribution. The finding of the plant survey will have a significant impact on our management strategy.

KEEPING IT BLUE, REDUCING PHOSPHORUS IN OUR LAKES

A seminar for property owners, farmers, and anyone interested in lakes and phosphorus pollution was held recently at the Walworth County Courthouse. The event was presented by the Geneva Lake Conservancy, Geneva Lake Environmental Agency, and Walworth County government and made possible by the generous support of Simms Family Foundation, The Richard H. Driehaus

Charitable Lead Trust and Kikkoman Foods Foundations. The seminar was well attended by people from several Walworth County lakes. Presentations were made by staff members from the presenter organizations and the U.S. Geological Survey. The opening address was given by Todd Ambs, assistant deputy secretary of the DNR. Topics included what phosphorus can do when it gets into our lakes; managing phosphorus in urban, rural, and lakefront areas; and what is happening with phosphorus in Geneva Lake.

Lake Notes

– A young whale whose carcass washed up in the Philippines died of dehydration and starvation after consuming 40 kilograms (88 pounds) of plastic bags.

– Williams Bay is celebrating its centennial birthday this summer. Many activities are being planned to highlight the village's many historical events. Visit http://www.williamsbay.org/ for more information as things develop.

– Wetland protection is being eroded at both the state and federal levels in the context of "deregulations." This is not good. With more and more of storms being more intense, I wonder what the loss of wetland will do in terms of flooding.

– As summer finally arrives, let us not forget what makes this season so wonderful in this area – GENEVA LAKE. Please clean your boats before and after leaving the lake. We are investigating the possibility of establishing cleaning stations at the launches.

– The lake really took a beating this spring with the heavy rains. I hope the consequences are not too tough on us this summer. What was most depressing was the duration in which the whole lake's shoreline was brown. Let's tighten up our construction site erosion and sediment control. Those May rains were intense, but it was spring in Wisconsin, and it always rains. Let's deal with it. Weather is changing. Intense short-duration storms are getting to be common around here.

– Working with the DNR, the GLEA will be conducting studies to assess the efficacy and duration studies on the chemical treatment of the Trinke Estates lagoon starting June 18.

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Save Geneva Lake

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

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.

Geneva Lake Environmental Agency

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