

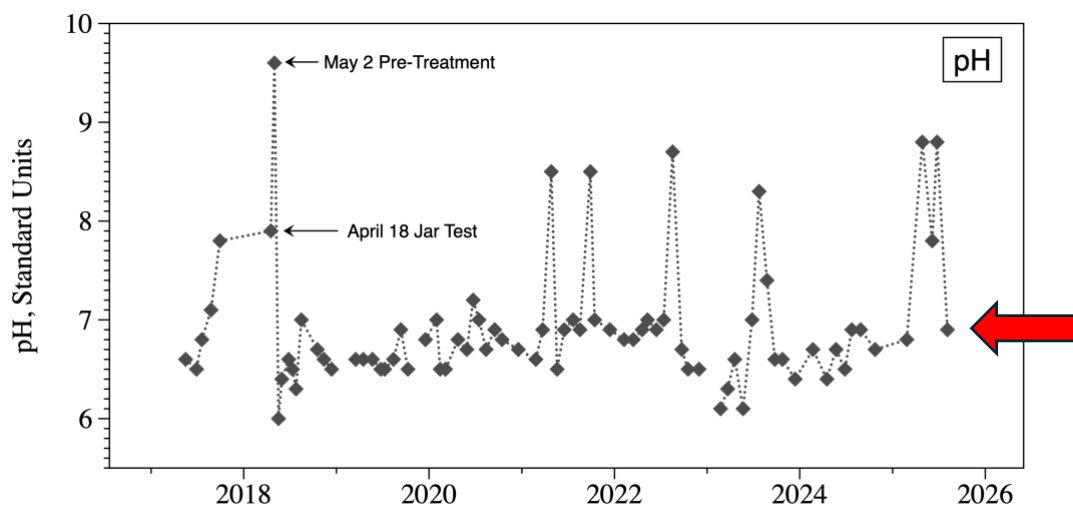
Report to White Lake Town Board August 2025

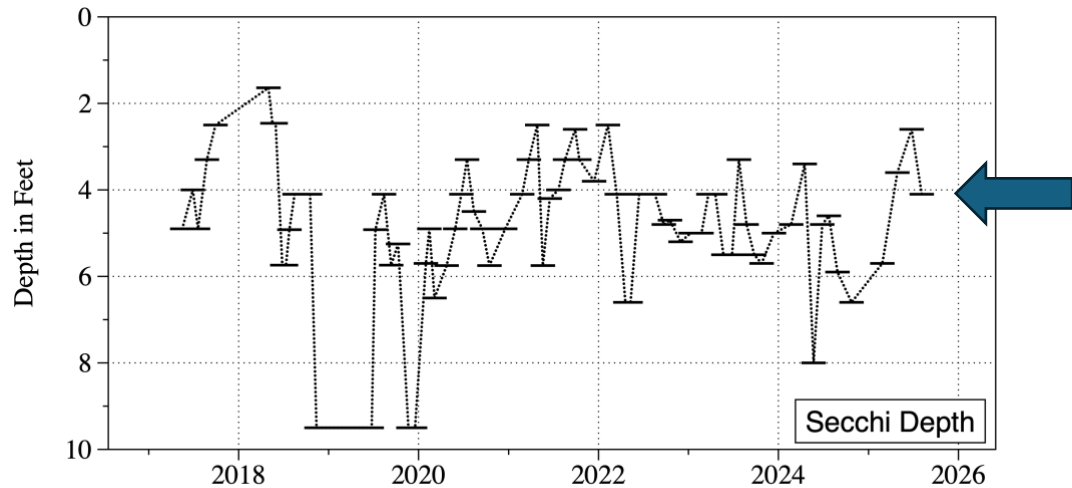
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What has changed with White Lake since last month's report? Water temperatures are lower, pH levels are lower, and clarity has improved (comparisons between June 25 and August 5 sampling dates).

Summer water temperatures above 90° F are typical at White Lake; what is also typical is that temperature changes can be relatively rapid (+12° in 2.5 weeks in June, for example). Even warmer temperatures can develop in shallow areas of the lake on hot, sunny, and calm days. This is why juvenile yellow perch (a cooler-adapted species), can go belly up, as was seen in July. Conversely, cyanobacteria like it hot, so I had been concerned that conditions (higher temperatures, available nutrients, higher pH) might initiate a new filamentous cyanobacterial bloom in a repetition of what was seen in 2017.

Lake pH levels can also change relatively quickly, with higher levels seen during periods of higher growth and photosynthesis, which is seen every summer. The drop in pH seen on August 5 (see red arrow in graph below), in conjunction with an improvement in Secchi disk measurements of water clarity (see blue arrow in graph on next page), indicates that the phytoplankton population is gradually diminishing.





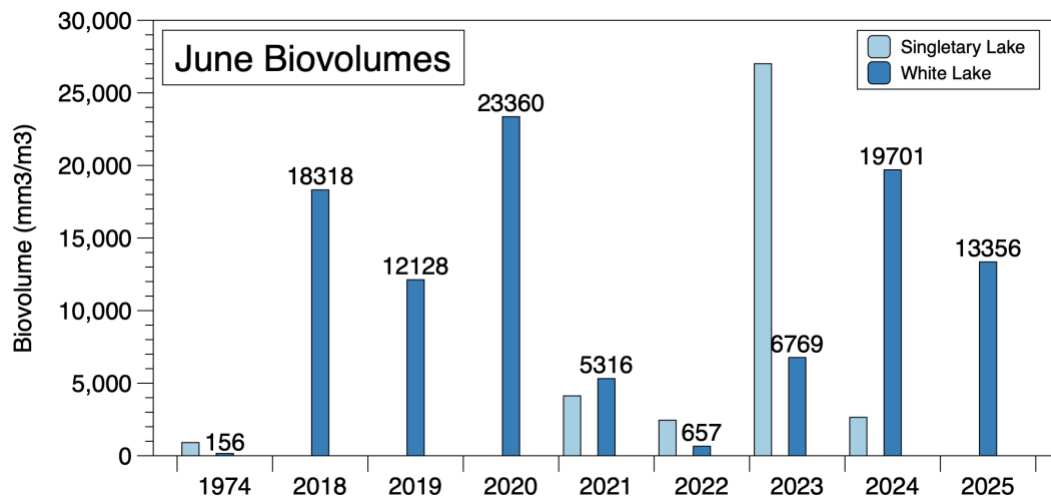
The Secchi depth graph is “upside down”, so that the top axis represents the lake surface, and you are looking down into the water to see the point at which you can no longer see the disk.



The photo above, taken at Lake Place on August 5, shows the relatively clear water beyond the nasty zone (which you saw pictures of last month as well), and swimmers out enjoying the better conditions. I suspect that the white material on top of the sediment scum is lake foam (which forms naturally) that is not dispersing because the rubbery skin of sediment material keeps the water from mixing.

Phytoplankton Comparisons with Previous Years

In addition to making comparisons over the course of the year, it is helpful to compare conditions from year to year. The specialist who identifies the phytoplankton in White Lake samples also takes measurements of the microscopic cells, to calculate how much “biovolume” is found in a given volume of lake water. This is the most precise way to make comparisons, but it is tedious work, and she has completed one of three samples so far, which indicates that despite the elevated pH level, June phytoplankton biovolume was lower than what was seen in 2024 (when there was no pH spike in June). Since 2019, the dominant phytoplankton group has been desmids, which have been characteristic of the lake historically.



Note that this graph includes acidic Singletary Lake, and that at times phytoplankton biovolumes are higher there than in White Lake.