

A YEAR OF SAMPLING ON LAKE WAWASEE

TWO LONG-STANDING LAKE WAWASEE FAMILIES, THE HERDRICHS AND THE GRIFFITHS, FUNDED A YEAR-LONG MONTHLY SAMPLING EFFORT TO SEE WHAT'S GOING ON DURING THE OFF-SEASON.

ABOUT THE STUDY

The Lilly Center samples Lake Wawasee weekly in the summer for clarity, oxygen, pH, nutrients/sediments, algae populations, microcystin toxin and more. In 2020, we also sampled during the “off season,” even while there was ice! The three most telling aspects were water temperature, dissolved oxygen content and water clarity.



TEMPERATURE

During the first and last few months of 2020, the lake was the same temperature top to bottom.

Our January sampling, which occurred before the lake froze over, showed the lake was 36°F. (That’s colder than your fridge but not as cold as your freezer.)

During the summer, before turn-over and while the lake is stratified, there are distinct differences in temperature. These separate the lake into three non-mixing layers.

SO WHAT?

- **Turnover creates a healthy balance** throughout the entire lake, like an ecological reset button.
- It usually occurs **twice a year**, once in the spring and again in the autumn.

DISSOLVED OXYGEN (DO)

Dissolved oxygen (at least 2.0 mg/L) is essential for underwater life, including fish.

In 2020, DO near the surface was abundant, **ranging from 8.1 – 14.8 mg/L**. From late fall to early spring, there were higher amounts of DO across all layers of the lake.

Fall and spring turnover restore the balance of dissolved oxygen and replenish it throughout the lake.

SO WHAT?

- **During summer, DO cannot flow between the lake’s layers.** It has to wait for fall turnover.
- During winter, if ice stays on the lake for too long, **DO will begin to decrease** at the bottom of the lake.

WATER CLARITY

During 2020, Wawasee’s water clarity varied from **6.2 ft to 15.0 ft into the water**. The summer was most shallow while the winter’s clarity was much deeper.

Does this mean that colder water is more clear than warm water? Not necessarily! It’s not the cold temperature that gives winter water greater clarity, but the effects that the cold water has on what lives in a lake’s ecosystem, such as algae.

SO WHAT?

- **Algae, organisms and sediment** determine how murky lake water appears.
- **There is much more activity on the lake during the summer**, so it makes sense that the water clarity would decrease.

