Log Details - #4

Aurora Lake

1206 Surfside Cir, Aurora, OH 44202, USA

General Info

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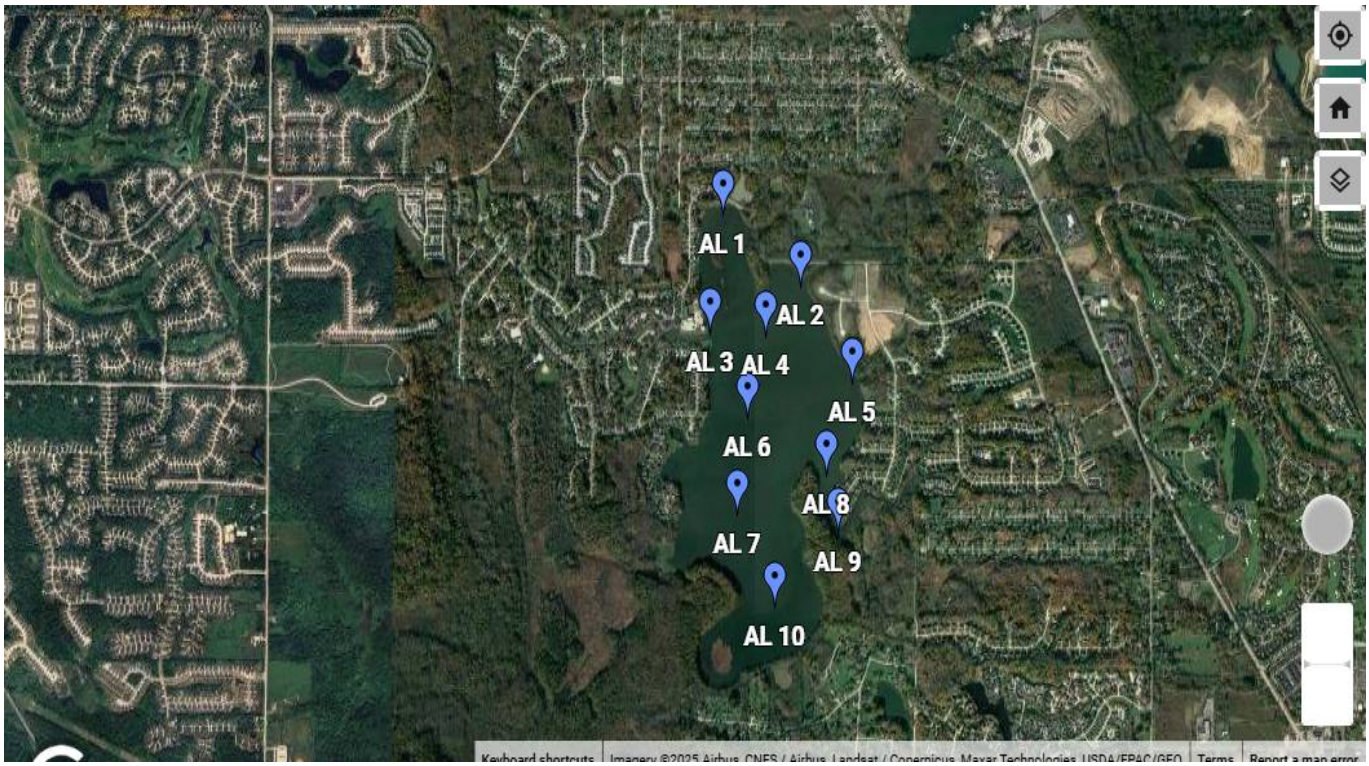
Weather Data			
Temperature	83°F		
Conditions	Scattered clouds	**Wind**	5.75 mph West
Humidity	54%	**Pressure**	1021 hPa
Sunrise/Sunset	6:26 AM / 8:35 PM		

General Information	
Start Date/Time	08/07/2025 04:31 PM
Lead Staff	Ed Kwietniewski
Additional Staff	Ed Kwietniewski

Map



Map Graphics

Type	Coordinates	Label	Area	Perimeter
marker	41.323358, -81.385319	AL 10	N/A	--
marker	41.327290, -81.387851	AL 7	N/A	--
marker	41.331383, -81.387165	AL 6	N/A	--
marker	41.328934, -81.381929	AL 8	N/A	--
marker	41.326517, -81.381157	AL 9	N/A	--
marker	41.332898, -81.380170	AL 5	N/A	--
marker	41.337022, -81.383646	AL 2	N/A	--
marker	41.334863, -81.385920	AL 4	N/A	--
marker	41.340051, -81.388753	AL 1	N/A	--
marker	41.334992, -81.389611	AL 3	N/A	--

Observation

Species	Type	Severity	Location	Treated
Planktonic Algae	Other	**Low**	Site Wide	**No**

Photos

Picture of launch area

Picture of launch area

General color of water during visitation.

Channel between AL 8 and AL 9.

Channel between AL 8 and AL 9.

Northeast inlet

Public beach

LakeTech buoy

Photo of raw data

Notes

Today we conducted our 4th visitation for the 2025 season.

I am happy to see that the Aphanizomenon bloom that was extensive over the past two visits has now appeared to subside. There is a light tinge of green on the water and a close inspection does showcase what seems to be light algal-based turbidity. Chlorophyll-a values collected during this visit showcased some of our lowest readings so far supporting the observed reduction in Aphanizomenon. With current slight algal-based turbidity not connecting to Aphan. growth, and algal density values reading low, an algae enumeration sample was collected while onsite to confirm if the current, light quantity of algae growth is cyanobacteria or chlorophyte planktonic algae. The result of this will be shared once results are received back from EnviroScience. A depth profile was collected at the suggested deep point of the lake, spatial chlorophyll-a samples were observed at the usual 10 locations (in map above), and the enumeration sample as well as a phosphorus sample were both collected as a part of today's visitation.

Chlorophyll-a values are described below:

AL1: 1.84 ug/L
AL2: 1.88 ug/L
AL3: 1.55 ug/L
AL4: 1.74 ug/L
AL5: 1.62 ug/L
AL6: 1.74 ug/L
AL7: 1.66 ug/L
AL8: 2.08 ug/L
AL9: 3.33 ug/L
AL10: 1.57 ug/L

Location AL9 does seem to exhibit higher chlorophyll-a values during our visitations to the lake. This may be contributed to the exceptionally shallow nature of the location (approx. 1.5 ft.) and the simple gliding of the boat over this area may stir-up benthic sediment causing slightly increased chlorophyll-a values (dead algal cells are a component of bottom muck, it is common to confirm you have reached bottom of a sample location with an in-situ probe by seeing if chlorophyll-a significantly increases beyond reasonable concentrations).

Depth profile information showcased a lake that is mixed at the time of sampling with adequate oxygen concentrations persisting from top to bottom. The lower algal density likely helps with bottom oxygen concentrations as fewer algal cells also means less decomposition of dead cells at the bottom, reducing respiration rate. Heightened algal biomass can showcase higher oxygen near the surface where the bloom may be alive and present (increased photosynthesis) with much lower oxygen extremes near the bottom (as described above). This trend also coincides with stratification.

A check of the buoy was also performed. The system has been functioning and viewable since a few days before the start of the new month. A check of values with the YSI probe showcased similar results but off very slightly from each other. This is to be expected given the difference in sampling machine manufacturer and the differences were insignificant. A check will occur next visit to ensure movement trends in data align.

No applications were conducted during today's visitation given the low density of algae.

I received a question regarding erosion control measures. Having plants in the lake is beneficial to reduce wave energy input into shoreline areas. Submersed plants will reduce wave energy while shoreline plants (above water) can utilize their roots to hold onto sediment. The combination of both

can assist in reducing eroded material from entering the lake and slow lake-aging (eutrophication). I would suggest looking into shoreline best management practices (BMPs) which were mentioned in the 2014 lake report and widely available online for more information and assistance on what BMPs may work well for Aurora Lake.

Thanks! We will be back out in approximately 2 weeks.