



Log Details - #1

Aurora Lake

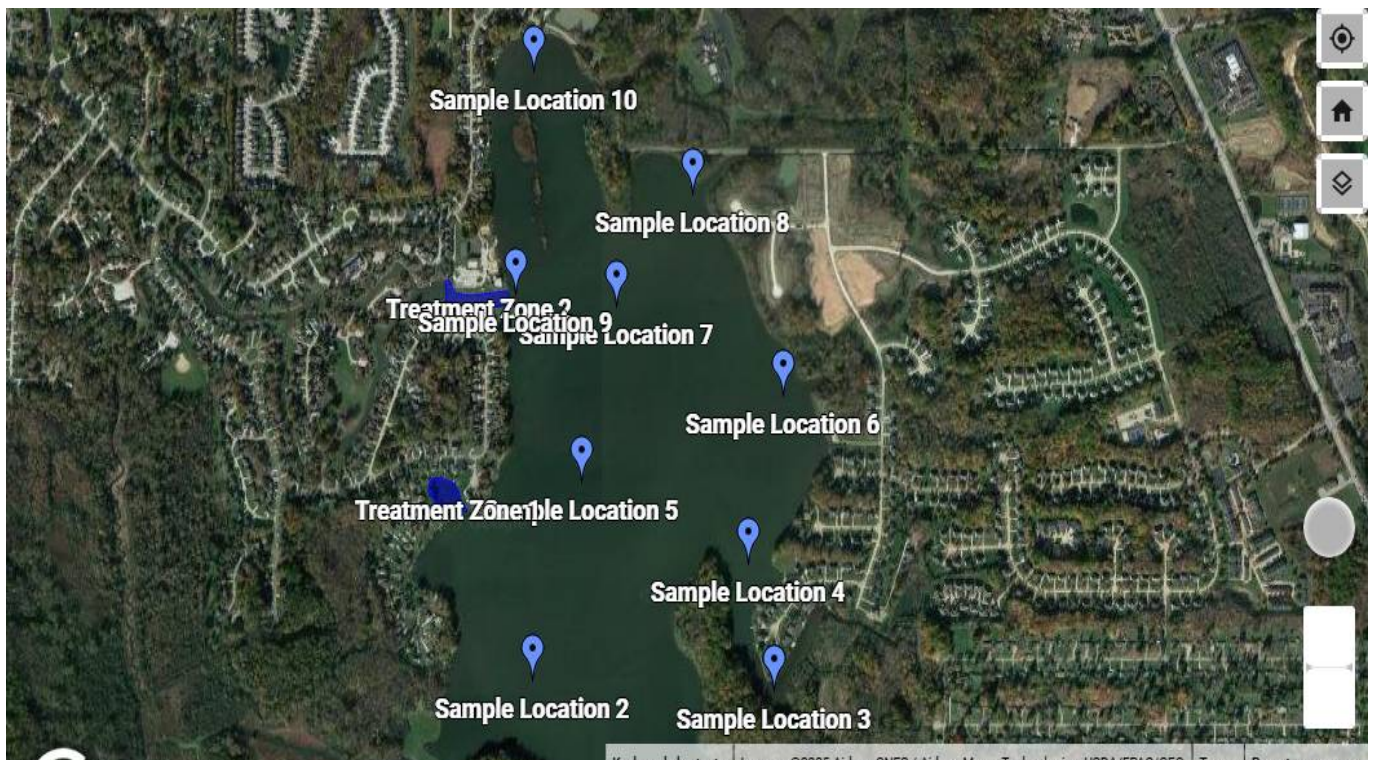
1206 Surfside Cir, Aurora, OH 44202,
USA

General Info

General Info

| Weather Data | | | | General Information | |
|----------------|-------------------|----------|---------------|---------------------|---------------------|
| Temperature | 74°F | | | Start Date/Time | 06/26/2025 11:00 AM |
| Conditions | Clear | Wind | 2.39 mph East | Lead Staff | Ed Kwietniewski |
| Humidity | 87% | Pressure | 1012 hPa | Additional Staff | |
| Sunrise/Sunset | 5:57 AM / 9:02 PM | | | | |

Map



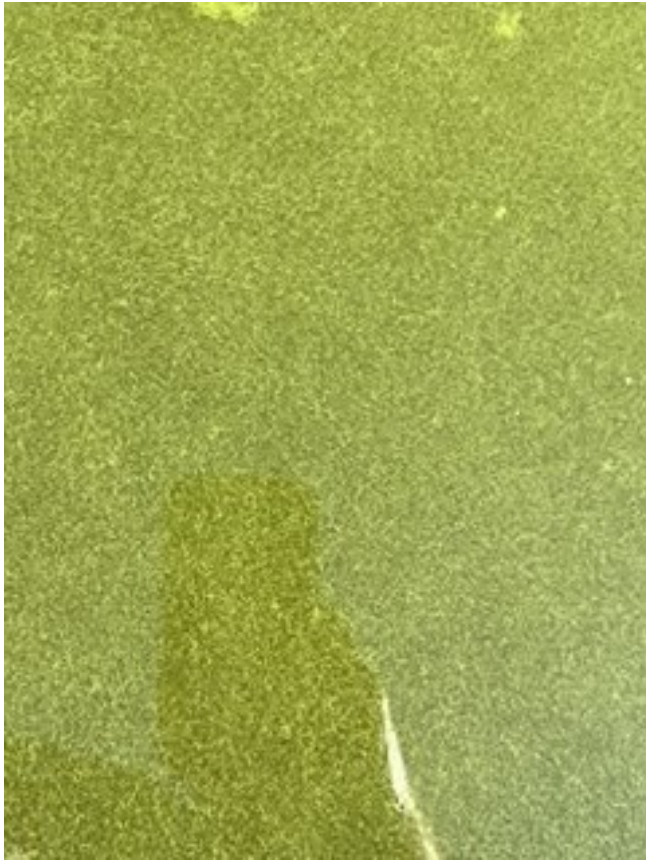
Map Graphics

| Type | Coordinates | Label | Area | Perimeter |
|---------|-----------------------|--------------------|-----------|-----------|
| polygon | 41.330733, -81.391817 | Treatment Zone 1 | 1.3 acres | 970 ft |
| polygon | 41.335037, -81.390777 | Treatment Zone 2 | 1.5 acres | 1557 ft |
| marker | 41.322714, -81.386157 | Sample Location 1 | N/A | -- |
| marker | 41.326549, -81.380964 | Sample Location 3 | N/A | -- |
| marker | 41.329257, -81.381823 | Sample Location 4 | N/A | -- |
| marker | 41.326775, -81.388989 | Sample Location 2 | N/A | -- |
| marker | 41.330997, -81.387359 | Sample Location 5 | N/A | -- |
| marker | 41.332829, -81.380666 | Sample Location 6 | N/A | -- |
| marker | 41.334753, -81.386196 | Sample Location 7 | N/A | -- |
| marker | 41.337138, -81.383664 | Sample Location 8 | N/A | -- |
| marker | 41.335011, -81.389543 | Sample Location 9 | N/A | -- |
| marker | 41.339748, -81.388942 | Sample Location 10 | N/A | -- |

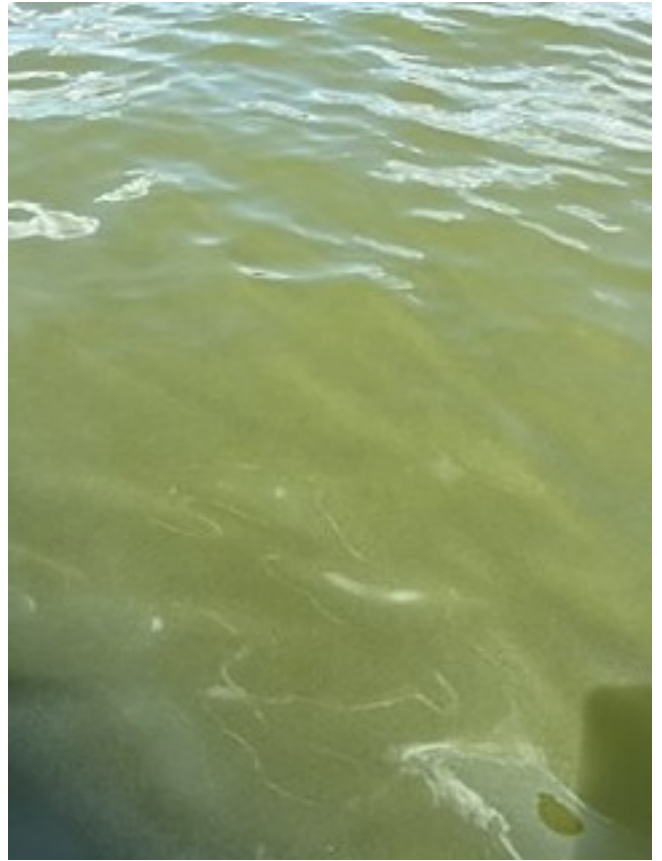
Observation

| Species | Type | Severity | Location | Treated |
|-------------------|-------|----------|-----------|---------|
| Aphanizomenon sp. | Other | High | Site Wide | No |

Photos



Aphanizomenon close up



Color of water



Aphanizomenon near boat docks



Beach



Elodea found onsite



Cove treatment



Surface cyanobacteria at launch



Surface cyanobacteria at launch

Accession:
 Customer Name: Aurora Lake
 Site Name: Deep Point
 Tech Initials: JSC
 Date: 6/26/20

Depth profile
 - Data check in 10 locations ✓
 - Lab check 5/10/20 ✓
 - Microscopy sample 2/20/20 ✓
 - Collected ✓
 - Treat appropriate zones

Weather Conditions: Hot, Sunny, light breeze
 Notes: Significant cyanobacteria blooms, likely Aphanizomenon
 Sample Location: Suggested deep point
 Time: 11:00 AM

| Depth | Temperature | Conductivity | Dissolved Oxygen | Depth Temperature | | |
|-------|-------------|--------------|------------------|-------------------|------|------|
| | | | | 1m | 2m | 3m |
| 1 | 16.5°C | 128.0 | 10.5% | 16.5 | 16.5 | 16.5 |
| 2 | 16.5°C | 128.0 | 10.5% | 16.5 | 16.5 | 16.5 |
| 3 | 16.5°C | 128.0 | 10.5% | 16.5 | 16.5 | 16.5 |
| 4 | 16.5°C | 128.0 | 10.5% | 16.5 | 16.5 | 16.5 |
| 5 | 16.5°C | 128.0 | 10.5% | 16.5 | 16.5 | 16.5 |
| 6 | 16.5°C | 128.0 | 10.5% | 16.5 | 16.5 | 16.5 |
| 7 | 16.5°C | 128.0 | 10.5% | 16.5 | 16.5 | 16.5 |
| 8 | 16.5°C | 128.0 | 10.5% | 16.5 | 16.5 | 16.5 |
| 9 | 16.5°C | 128.0 | 10.5% | 16.5 | 16.5 | 16.5 |
| 10 | 16.5°C | 128.0 | 10.5% | 16.5 | 16.5 | 16.5 |
| 11 | 16.5°C | 128.0 | 10.5% | 16.5 | 16.5 | 16.5 |
| 12 | 16.5°C | 128.0 | 10.5% | 16.5 | 16.5 | 16.5 |
| 13 | 16.5°C | 128.0 | 10.5% | 16.5 | 16.5 | 16.5 |

Chlorophyll a check 10 1/2 values
 1.0 (10.5%)
 2.0 (21.0%)
 3.0 (31.5%)
 4.0 (42.0%)
 5.0 (52.5%)
 6.0 (63.0%)
 7.0 (73.5%)
 8.0 (84.0%)
 9.0 (94.5%)
 10.0 (105.0%)
 11.0 (115.5%)
 12.0 (126.0%)
 13.0 (136.5%)

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 1.0 (10.5%)
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 10.0 (105.0%)
 11.0 (115.5%)
 12.0 (126.0%)
 13.0 (136.5%)

Image of raw data from visit

Products and Services

| Item | Amount | Units | Rate | Rate Units | Inventory | Location |
|--|--------|-------|------|------------|-----------|----------|
| Chemical Target: Algae Method: Boat Notes: Treated in zones 1 & 2 above | | | | | | |
| Copper Sulfate | 0 | | 1 | ppm | none | |
| <div>Chemical Type: [object Object]</div> <div>EPA ID: 56576-1</div> <div>State #: N/A</div> <div>Active Ingredient: Copper Sulfate Pentahydrate</div> | | | | | | |

Restrictions

| Restriction | Days | Notes |
|-------------|------|-------|
| Swimming | - | - |
| Drinking | - | - |
| Contact | - | - |
| Irrigation | - | - |
| Fishing | - | - |

Notes

Today was our first visitation to Aurora Lake to assess and treat any aggressive algae biomass.

The lake had an extensive *Aphanizomenon* bloom at the time of visitation (first image). This is a planktonic cyanobacteria that has been known to produce toxins at times. A Microcystin sample was collected at the deep point (Sample Location 5 in map). This sample returned as non-detectable suggesting low toxin concentrations during the visit date. 10 noted locations throughout the lake (in map above) were sampled with our YSI multiparameter sonde for chlorophyll concentrations. Collected values ranged between 1.8 ug/L and 8.12 ug/L (high level within treated cove). The cove as well as the channel at the entrance to the lake from the boat launch were treated with low-dosage copper sulfate as they represented the highest chlorophyll concentrations at, or close to 8 ug/L with the boat launch area having a visual surface scum. We also collected a depth profile at the deep point sampled last year (see photos). As an additional observation, one individual of *Elodea canadensis* (common waterweed) was found within the lake near sample location 3. Data collected and observations from today are stored with us with last year's data.

A conversation with Joe Kovach suggested that lilies may be added to the lake. Although adding vegetation to the lake is an important goal that will assist with reducing algae biomass overtime, care should be taken to plant these individuals in zones where they will not succumb to desiccation and death from drawdown. Lilies are not resistant to drawdown. However, there are noted zones where Nuphar (spatterdock) grows in the lake suggesting the presence of survivable micro-habitat zones where survival is possible. I would suggest planting lilies near the spatterdock to increase the longevity of your plantings. Drawdown resistant species of plants include pondweed species in the genus *Potamogeton* and naiads in the genus *Najas*.

We are set to collect Microcystin samples monthly with the additional contract we collected. Please note that this includes one sample per visit per month but, we can be flexible with taking samples with the biweekly visitation contract budget if fewer applications are necessary (i.e. exchange some of the treatment product costs with lab costs).

It was also asked what the price for the buoy would be on a per-month basis. Our buoy would be a rental cost of \$1,000 per month plus an installation fee (typically around \$200). I typically suggest having one installed for the full season (April - September/October) for maximum data collection but adjusting time frames to meet goals does make sense.