Aquatic Environmental SERVICES, INC.

November 18, 2026

Michael Curry
Norris Lake

**Harmful Algal Bloom — Water Quality Assessment, Norris Lake**

On November 12, 2026, Aquatic Environmental Services, Inc. (AES) met with Michael on site at Norris Lake to assess visible algae growth and discuss the risks a harmful algal bloom (HAB) poses to the community and the fishery, along with steps to protect both. A water sample and an in-house algae sample were collected at the northwestern cove, where growth was most visible, and a SePRO Lab sample was submitted from the same location for independent analysis. Dissolved oxygen readings were also taken at two additional areas of visible growth elsewhere on the lake.

## Field Measurements (Surface, 11/12/2026)

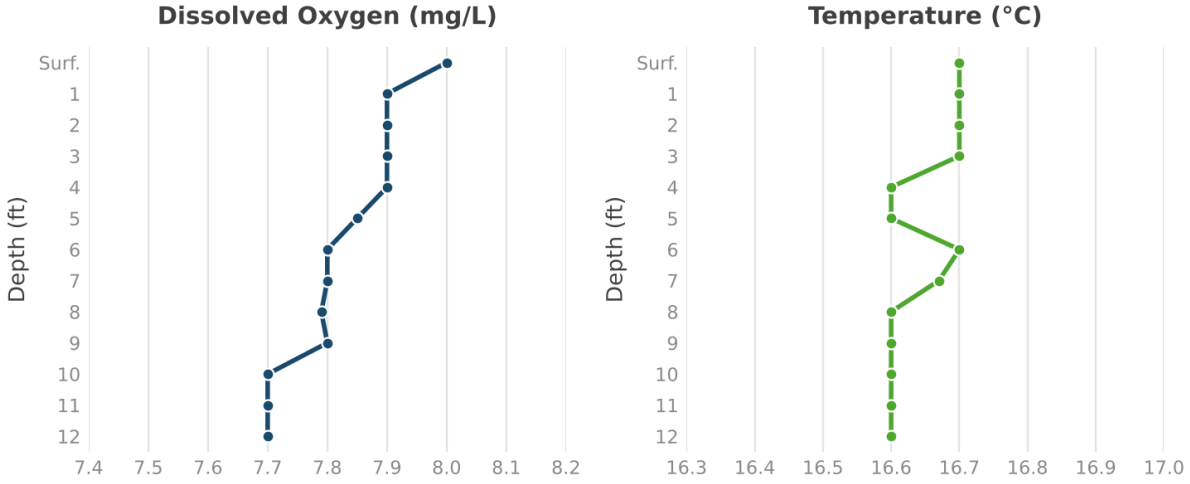
| Parameter | Result |
|---|---|
| Dissolved Oxygen | 7.9 mg/L |
| Water Temperature | 16.6° C (61.9° F) |
| pH | 6.99 |

## Dissolved Oxygen & Temperature Profile

| Depth | DO (mg/L) | Temp (° C) |
|---|---|---|
| Surface | 8.0 | 16.7 |
| 1 ft | 7.9 | 16.7 |
| 2 ft | 7.9 | 16.7 |
| 3 ft | 7.9 | 16.7 |
| 4 ft | 7.9 | 16.6 |
| 5 ft | 7.85 | 16.6 |
| 6 ft | 7.8 | 16.7 |
| 7 ft | 7.8 | 16.67 |
| 8 ft | 7.79 | 16.6 |
| 9 ft | 7.8 | 16.6 |
| 10 ft | 7.7 | 16.6 |
| 11 ft | 7.7 | 16.6 |
| 12 ft | 7.7 | 16.6 |

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*Dissolved oxygen and temperature stayed consistent from the surface down to 12 feet (7.7–8.0 mg/L, 16.6–16.7° C), with no thermal or oxygen stratification observed — a healthy sign for the fishery at the time of testing.*




## Algae Identification

| Source | Genus Identified | Classification |
|---|---|---|
| AES in-house field ID (11/12/2026) | Microcystis sp., Lyngbya sp. | Cyanophyta (blue-green algae) — both genera capable of toxin production |
| SePRO Lab independent analysis (sample received 11/12/2026) | Microcystis sp., Aphanocapsa sp. | Microcystis: colonial, scum-forming, planktonic; potential toxin and taste/odor producer. Aphanocapsa: cyanophyta, also noted present. |

*Lyngbya was identified in AES's same-day, in-house field assessment but was not listed in SePRO Lab's independent sample results. This most likely reflects normal variation between a field observation and a single lab grab sample rather than a discrepancy in findings, and does not rule out its presence elsewhere in the lake.*

## Nutrient Results (SePRO Lab)

| Analysis | Result |
|---|---|
| Total Phosphorus | 27.2 µg/L — eutrophic range (25–96 µg/L) |
| Free Reactive Phosphorus | 7.5 µg/L — low |
| | |

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## Summary

Microcystis and Lyngbya are both cyanobacteria genera with documented potential to produce toxins — Microcystis is a known source of microcystins (liver toxins) as well as taste-and-odor compounds, while Lyngbya species have been associated with dermatotoxins and other bioactive compounds that can cause skin and eye irritation on contact. Their presence at Norris Lake indicates conditions capable of supporting a harmful algal bloom, though no targeted toxin analysis (such as a microcystin ELISA) was performed, so actual toxin concentrations are not currently known — these genera confirm the potential for toxin production, not a confirmed toxin level. Nutrient levels are elevated, but not at a level where nutrient mitigation is recommended at this time. However, knowing that dredging was recently completed, it is likely that the high nutrient level in the water column is in part due to disturbed sediments, which carry high nutrient loads. For future dredging operations, we recommend nutrient management to be completed alongside dredging to prevent this type of sudden algal bloom.

Surface dissolved oxygen at the time of testing (7.9 mg/L) was within a normal, healthy range for fish, with no signs of distress observed, though this can change quickly during a bloom, particularly overnight or as it begins to die off and decompose, so it should continue to be monitored.

## Recommendations

**1.** Until cooler weather and visible improvement in clarity, avoid direct contact with the water — swimming, wading, or boating through visible scum — in and around the northwestern cove and any other area showing visible algae growth or scum.

**2.** Keep pets away from the shoreline in affected areas and prevent them from drinking lake water where scum or discoloration is visible; cyanobacterial blooms have been linked to animal illness and death in other documented cases.

**3.** Do not use water from affected areas of the lake for drinking, cooking, or irrigating edible plants.

**5.** Consider an algaecide treatment to manage the current bloom if water clarity does not improve through winter.

**6.** Schedule follow-up water quality and algae monitoring to track bloom progression. Alerting our lake management team early if bloom worsens in spring will allow for quick action and early control before the bloom becomes widespread.

Sincerely,

Gage Stewart
GIS Specialist/Fisheries Technician, Aquatic Environmental Services, Inc.