

Signs of Anoxia Cheat Sheet: LEARN HOW TO SPOT THE SIGNS OF YOUR LAKE'S HIDDEN ENEMY

Low oxygen or “anoxia” is the cause of many common lake problems and is a growing concern for lakes everywhere, especially those plagued by increased nutrient pollution and rising temperatures.

Lake Detective: Explore 6 possible signs that may indicate your lake needs oxygen. Check off the ones that apply to your lake.

-  **01: Does your lake experience recurring algal blooms?**
If your lake is experiencing recurring algal blooms, increased severity or increased duration, your lake most likely needs a healthy dose of dissolved oxygen (DO). When algal blooms die, they sink to the bottom of lakes, requiring significant oxygen to support their decomposition. This leads to further oxygen depletion and even dead zones if blooms persist.
-  **02: Are their foul odors coming from your lake?**
When your lake starts to smell bad, it's most likely already struggling with insufficient DO at the lake bottom. Foul odors often indicate anaerobic conditions, as the gases they produce tend to smell.
-  **03: Has there been recent fish kills or noticeable declines in fish populations?**
Poor aquatic animal health is an indicator of an unhealthy aquatic environment. Fish kill events are caused by major aquatic environment changes, and in some cases this can be oxygen related.
-  **04: Does your lake have excessive aquatic weed growth?**
Low DO can inhibit native species from thriving, which generally compete with invasive weeds, reducing their excessive growth. If your lake has lots of aquatic invasive weeds, this could indicate that the aquatic ecosystem isn't healthy.
-  **05: Is there excessive organic matter (muck) at the bottom of your lake?**
Lots of muck at the bottom of your lake means that aerobic bacteria can't naturally digest it at a rate that's needed to keep the lake healthy. This is a sign of low DO levels, especially at the lake bottom.
-  **06: Is the water murky with poor clarity?**
Insufficient DO levels can also lead to poor water clarity, especially when algal blooms are persistent.

Look for these signs in your lake. If you see more than one, your lake could be struggling to breathe and needs oxygenation.

Why Lakes Need Oxygen to Survive

Oxygen in water is called dissolved oxygen (DO), and it plays an [essential role](#) in keeping aquatic life alive. Fish, insects, microscopic organisms, and even the microbes that clean the lake all rely on DO. When DO levels drop too low, these organisms become stressed, go dormant or die, leading to a cascade of negative effects across the ecosystem.

✔ **Healthy DO Level:**
Greater than 5 mg/L.

● **Critical DO Level:**
Less than 3 mg/L

When lakes lack oxygen, we start to see serious problems—fish kills, excessive algae blooms, foul odors, and [muck accumulation](#), to name a few.



The Oxygen Cycle in Lakes

In a healthy lake, oxygen is constantly being: (H₂S) forming bacteria that cause foul odors.

- ✔ **Added** through surface exchange with the air and photosynthesis by aquatic plants and algae.
- ✔ **Consumed** by aquatic organisms and the decomposition of organic matter.
- ✔ **Circulated** by wind, water currents, and temperature changes that mix surface and bottom waters.

This cycle keeps oxygen flowing throughout the lake—from the top of the water column to the very [bottom sediment](#). But when the cycle is disrupted—by [nutrient pollution](#), warming temperatures, or poor circulation—oxygen levels can plummet, especially near the lake bottom.



How to Help Suffocating Lakes

Moleaer nanobubble technology [combats anoxia by delivering oxygen](#) to the entire water column and the bottom of the lake at the sediment-water interface. This creates and enhances oxic (oxygen) conditions, especially at depth, to enable [natural lake recovery processes](#) and increase lake resiliency.

By elevating oxic conditions, nanobubbles:

- ✔ Accelerate muck digestion
- ✔ Mitigate nutrient levels
- ✔ Reduce algae and harmful algal blooms
- ✔ Improve water clarity
- ✔ Reduce fish kills
- ✔ Eliminate or reduce foul odors
- ✔ Reduce coliforms

The Result:
Chemical-free water body restoration.



Is Your Lake in Need of Oxygen?

[Contact our team](#) to learn more about Moleaer nanobubble solutions to breathe life back into your lake.