

# How to Maintain Proper Pond Oxygen Content

*Drs. Foster & Smith Educational Staff*



## Optimize your pond with **OXYGEN**



Oxygen plays a vital role in maintaining a healthy pond environment. Fish need oxygen to breathe and oxygen-rich water allows efficient biological filtration. A stable pond environment with clean and clear water depends on oxygen.

### Is there enough oxygen in my pond?

Testing is the most accurate way to determine if there is enough oxygen in your pond. However, there are several cues that can alert you of low oxygen content in your pond. Pay attention to the following signs for early detection and timely correction of potential problems.

- **Fish gasping at the surface** - Fish gulping near the surface, at the entry of a water stream, or near other water features are likely oxygen starved. Pond fish such as goldfish and Koi thrive in oxygen-rich waters and are not tolerant of low oxygen levels.
- **Foul odors** - In poorly oxygenated ponds, decaying vegetation, excess fish waste, and other organic matter can emit distinct smells. A strong "lake" smell may indicate poor [water circulation](#), [filtration](#), or [aeration](#).
- **Aggressive algae growth** - A thick layer of filamentous or string algae suggests excess algal nutrients, including carbon dioxide in the water. Ponds without active aeration or gas exchange provide ideal growing conditions for [nuisance algae](#).

### Regular tests

To avoid unnecessary stress on your fish, incorporate [oxygen tests](#) as part of regular routine maintenance. In addition to the oxygen test, use the [PondCare Pond Master Liquid Test Kit](#) to measure and monitor essential pond water parameters. Since pond water parameters including pH are affected by oxygen, routine testing

provides a comprehensive overview of the health of your pond.

### **Aerate to optimize oxygen levels in your pond**

The easiest way to improve the oxygen content in a pond is to increase water movement or to add an [aeration device](#). When water tumbles vigorously over rocky streams and waterfalls, it comes into greater contact with air. Harmful gasses are released and oxygen is incorporated into the water. Pond aeration devices such as [water fountains](#), bubblers, and spitters break the water surface to encourage gas exchange. Air pumps like our [Pond Aeration Kits](#) inject air directly into the water to oxygenate ponds throughout the year.

### **Additional tips for maintaining proper oxygen levels**

- **Remove waste** - Decaying matter uses up oxygen. Use a [net](#) or [vacuum](#) to remove leaves and settled debris from the bottom of your pond. Simplify this task by [skimming](#) surface debris before it sinks.
- **Provide shade** - [Floating water plants](#) are a fast and easy way to provide shade. Water that is cool in temperature is able to hold onto more oxygen than warm water.
- **Plant the right plants** - Add a mixture of plants, including [marginal plants](#), [floating plants](#), and [submerged plants](#) to help decrease algae growth. Oxygenating plants such as [anacharis](#) and [cabomba](#) help increase oxygen level and improve water quality.
- **Maintain proper filtration** - Clean pond filters regularly, especially before departing for vacation. A clean filter works more efficiently to provide vital water movement and waste-removing filtration.
- **Adjust oxygen levels to match fish population** - Fish are a joy in the pond, but keep in mind, a heavily populated pond will require more oxygen. If your bio-load is high, then make sure you have enough aeration devices to maintain proper oxygen levels.
- **Exposed water surfaces** - During the winter, you must keep a small portion of the pond surface from freezing. Use an [aeration kit](#) or [de-icer](#) to maintain a small opening in the ice to allow gas exchange and prevent buildup of toxic gases.
- **Fresh, clean water** - A partial water change, no more than one-third at a time, can replenish oxygen and improve water quality. Remember to use a de-chlorinator, such as our [Chlorine Neutrilizer](#), if you have municipal tap water that contains chlorine or chloramine.