DISSOLVED OXYGEN

What is dissolved oxygen?

Think of dissolved oxygen (DO) as the "breath of life" for our water bodies. Just like humans need oxygen to breathe, fish and other aquatic animals need oxygen in the water to survive. Moving water mixes in dissolved oxygen from the air and from plants in the water that produce it through photosynthesis.

How do we measure it?

A Winkler titration kit, DO probe, or multiparameter probe are tools that can measure dissolved oxygen. Oxygen levels can be measured at the surface of the water, where oxygen is usually higher, or in deeper water, where levels can decrease due to biological activity and less mixing from wind, storms, and rain. Monitoring at the surface and in deeper water, typically using a probe, provides a fuller picture of oxygen conditions.

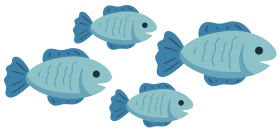
Equipment	Cost	Monitoring Time
Winkler titration kit	$	30 mins per site
Individual probe	$$	10–20 mins per site
Multiparameter probe	$$$	10–20 mins per site

Photo by the Chesapeake Bay Program.

Why do we care?

Aquatic Life

Healthy oxygen levels are crucial for fish, plants, and other aquatic animals to live and thrive.



Fish Kills

Low oxygen levels, especially in the summer, can kill fish and create unhealthy water conditions for fish nurseries.

Stream Health

Measuring dissolved oxygen helps us know if a water body is able to support a vibrant ecosystem.

How is my water?

Per the EPA, good oxygen levels are generally 5 mg/L or higher. DO can be indicative of habitat conditions at the site where you're monitoring, and you may observe higher or lower values based on conditions such as temperature, time of day, depth, and season. Consistently poor values can indicate stressful aquatic environments.

PLEASE NOTE:

This fact sheet provides general information about dissolved oxygen, but water monitoring in specific locations may require more detailed methods and considerations.