

Dissolved Oxygen

Why do we measure this?

Dissolved oxygen levels in streams are important to the survival of plants and animals.

Different organisms have varying tolerances to the amount of dissolved oxygen in the water. A higher concentration of oxygen in a stream usually indicates a healthy ecosystem and supports a greater diversity of organisms. Different parameters affect the amount of dissolved oxygen in a stream. Cold water can hold more dissolved oxygen than warm water. Streams that have riffles and turbulent flow usually have a higher level of dissolved oxygen than slow moving water because of the mixing of atmospheric oxygen into the water. Turbidity and the amount of decaying matter can deplete the amount of oxygen available in a stream. The Biochemical Oxygen Demand (BOD) measurement looks at the amount of oxygen consumed by microorganisms in the decomposing organic matter in stream water. BOD levels can be affected by organic pollution and the amount of woody debris in a stream. The greater the BOD demand the less oxygen available to other organisms.

Equipment Needed:

- Dissolved Oxygen test kit and / or meter
- BOD bottles and aluminum foil
- Waste bottle
- Physical and Chemical Data Sheet

Definition of Terms

5-Day BOD: measurement of oxygen at the beginning and at the end of a 5-day period. Difference in the level of oxygen indicates the consumption of oxygen by microorganisms.

