

## What is pH?

pH is the measure of acidity or alkalinity of water. The pH scale ranges from 0 (very acidic) to 14 (very alkaline, or basic) with 7 being neutral. Each whole pH value is ten times stronger than the previous value. Nutrients and other chemical substances can be toxic at pH levels outside of a healthy range (6.5–8.5).

## How do we measure it?

pH is measured in Standard Units (SU) on a scale from 0–14. When using a colorimetric test kit, test strips, or an individual pH probe, pH can only be measured at the surface of the water. When using a multi-parameter probe, pH can be measured throughout the water column.



Equipment	Cost	Monitoring Time
Test strips	\$	5 minutes per site
Colorimetric test kit	\$	10 minutes per site
Individual probe	\$\$\$	10–20 minutes per site
Multi-parameter probe	\$\$\$	10–20 minutes per site



Photo by Loudoun Wildlife Conservancy.

## Why do we care?

### Aquatic Life



The pH of water determines the biological availability of nutrients, or how much of those nutrients can be used by aquatic life. Any changes in water pH will be harmful to the plants and animals living there. For example, lowering pH can damage gills and dissolve snail or clam shells.

### Pollution



pH outside of the normal range can be a sign of pollution, which could be from mining or wastewater treatment plants.

### Stream Health



Even slight changes in pH can cause toxicity, poor aquatic health, and imbalanced ecosystems.

## How is my water?

Normal pH ranges from 6.5 and 8.5 pH, so any values outside this range are concerning. Many states have more specific water quality standards for pH. Drastic changes in non-tidal water within this range could still be of concern.



### PLEASE NOTE:

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