

Water Quality and Health

How do you feel today? Do you have lots of energy? Are you feeling healthy? Perhaps you feel under the weather. We have many ways to describe how we are feeling, because it's important for us to be able to communicate if something is wrong. Humans aren't the only organisms that can be healthy or unhealthy. Plants and animals are subject to any number of illnesses or diseases. Even nonliving things, like water, can be unhealthy. Unfortunately, when water is unhealthy, it affects everyone.

Water health is important for humans. Many of us don't think about the health of our water because we have treatment plants all over the country that make our water safe to drink. However, people in much of the world are less fortunate. About 900 million people on Earth lack access to clean water. Unhealthy water is water that is not safe to drink or suitable for aquatic life. People who consume unhealthy water can catch water-borne illnesses. Lack of access to clean water is responsible for childhood illness, diseases, and even death.

There are many different ways we can measure the quality of the water around us. Knowing the health of the water is a good way to tell the health of an entire ecosystem. If the water is clean and healthy, chances are that the things living in that ecosystem are also healthy. Likewise, if the water is not clean, then the ecosystem is probably unhealthy as well.

Some indicators of water quality are physical factors like the temperature of the water. Most water has an ideal temperature at which aquatic life will thrive. For most streams and rivers, the cooler the water, the better. A higher temperature may actually degrade the ecosystem, in part because warmer water contains less dissolved oxygen. Water will warm up if it loses its cover (the natural vegetation that shades the water). Water can also heat up if the waterway becomes wider. If a deep and narrow stream becomes wider, it will have a greater surface area and absorb more thermal energy from the sun.



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Other indicators of water quality are based on the chemical composition of the water. One of these is the pH level of the water. The pH level is a measure of how acidic or basic the water is. The pH scale ranges from 0 to 14. A 7 on the pH scale is considered neutral. A neutral pH is neither acidic nor basic. A healthy waterway usually has a pH between 6.5 and 8.5, or as close to neutral as possible. An increase or decrease in the pH of a waterway can kill the plants or animals that live there.

One final type of water quality indicator is biological. We can study the plants and animals that live in a body of water. These studies can help us understand whether the water is healthy or not. For example, imagine that a species of plant has lived in a river for hundreds of years. If the plant suddenly dies off, something could be wrong with the water. We can also study the animals in water to learn about water health.

Studying water quality indicators is a good way to tell if the water is healthy. Healthy waterways are essential for healthy ecosystems.



This mayfly spends part of its life in water. The health of the mayfly can tell us about the health of the water.