

Water Quality - Observations and Data

You already know that water has to be clean before you can drink it safely. It must also have certain chemical and physical characteristics to sustain healthy plants and animals. Human activities can cause undesirable changes in water that can harm living organisms. The things we add to water that cause these changes are called pollutants. Animal waste, excessive sediment, and hazardous chemicals, such as fertilizers and weed killers, are examples of pollutants that can affect water quality in the riparian zone.

Scientists rely on a variety of tests and observations to evaluate water quality. Here are a few that you and your team members can perform in your zone.

Water Appearance

Do you see any signs of water pollution? Check the term(s) in the data sheet that best describes the physical appearance of the water in the stream.

Water Appearance Data Sheet

- Clear: colorless, transparent.
- Turbid: cloudy-brown due to silt or plant material in the water.
- Milky: cloudy-white or gray; may be natural or due to pollution.
- Foamy: caused by excessive nutrients from either natural sources or from pollution.
- Dark Brown: may indicate that acids are being released into the stream by decaying plants.
- Oily Sheen: a multi-colored reflection; can occur naturally or it may indicate oil or other petrochemicals in the stream.
- Reddish: may indicate acids draining into the water or iron bacteria.
- Green: caused by algae that may indicate excess nutrients being released into the stream.

Water Odor

What do you smell? Water odor may be an indication that water is polluted. Check those indicators that apply.

Water Odor Data Sheet

- No odor
- Odor present. Rank the strength (circle one): weak strong overwhelming
 - Sewage: May indicate the presence of human waste or livestock manure. If you smell sewage/manure or a rotten egg smell, please do not touch or enter the water. Check with your leader before proceeding.
 - Chlorine: May indicate that a sewage treatment plant is using too much chlorine and discharging it into the stream; also a component of milkhouse cleaning.
 - Fishy: May indicate the presence of dead fish or excessive algae.
 - Rotten Eggs: A sulfurous smell may indicate muck soils or sewage/manure pollution. Hydrogen sulfide gas is a product of organic decomposition.
 - Petroleum: May indicate an oil spill from boats and personal watercraft, land, or storm drains.