



WATER MONITORING

DO, BOD, pH, and E. coli. Can I buy a vowel? Not to mention nitrate, and turbidity. Huh? Ok, before your eyes glaze over let me explain. Repeated water monitoring is important to determine the health and quality of a stream and also to become aware of any problems that might be occurring in the area around the stream.

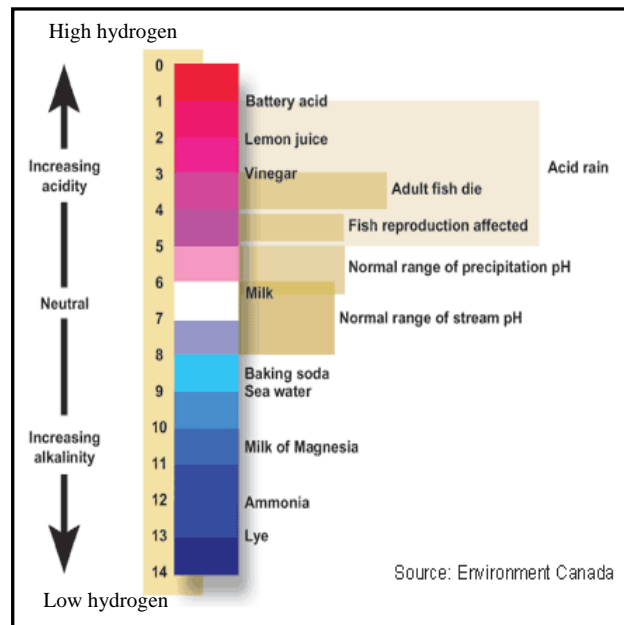
For example, dissolved oxygen (DO) tells how much oxygen is dissolved in the water. The higher the amount of oxygen, the happier the aquatic critters are. Everything from plants to animals, macro-invertebrates (aquatic insects) to trout need a healthy level of dissolved oxygen to survive.

Biochemical oxygen demand (BOD) indicates the amount of oxygen that is being consumed by bacteria living in the stream, which affects the amount of dissolved oxygen that is available for other organisms. A high demand on dissolved oxygen can be attributed to septic system malfunctions, inadequately treated municipal waste, or a high rate of algae die-off (plant decomposition uses a fair amount of oxygen).



pH is the measure of hydrogen and hydroxide ion that is present in water. A pH reading below 7 means there is a lot of hydrogen meaning the

water is acidic. A reading higher than 7 means there is little hydrogen making the water basic. A reading of 7 is neutral.



E. coli. Ewe. Ok, let's face it. Bacteria are everywhere. Good bacteria, bad bacteria, helpful and harmful bacteria. E. coli is bacteria naturally found in the intestines of warm-blooded animals and has the *potential* to be harmful; although most strains are harmless.

Finding E. coli in a stream doesn't necessarily mean the water is unsafe. But it can indicate some kind of contamination.

Nitrogen is found in all living things, and even in the air we breathe. However, an excess of nitrogen can cause an overabundance of algae in

streams. Once this algae dies off the decomposition process decreases the amount of dissolved oxygen found in the stream having a negative effect

on aquatic life. The highest quantity of nitrogen is found in fertilizers and can also come from a number of locations. Although nitrate is an indicator of nutrient sources elsewhere, it is in itself not particularly harmful.

Turbidity is a fancy word for how cloudy your water is. This is a simple test that uses a florescent light bulb tube cover and a Secchi disk print-out. The plastic tube is marked in centimeters starting with

zero at the disk in the bottom of the tube. The more water you can pour into the tube and still

see the disk, the higher number of centimeters you can read, the clearer the water is. This



is a good test for determining how much sediment [dirt] gets washed into streams after a storm which can help determine if there is a severe erosion problem somewhere upstream.

Any unusual results in consistent monitoring can indicate a problem in the watershed.