



Adopt-A-Stream Report Card

_____ Season

Group Name: _____

Leader's Name: _____



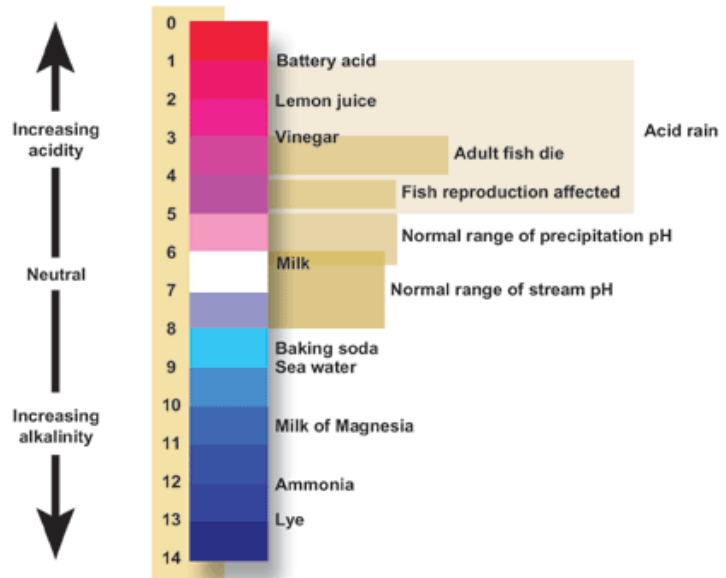
Why did we test?

Your Score: _____



pH:

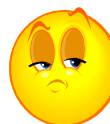
Not only does the pH of a stream affect organisms living in the water, a changing pH in a stream can be an indicator of increasing pollution or some other environmental factor.¹



Nitrate:

The federal government has established a maximum acceptable level, known as the Maximum Contamination Level (MCL) for nitrate in public drinking water. Sources of nitrate: Municipal and industrial wastewaters, refuse dumps, animal feed lots, and septic systems.² However, there is no standard acceptable level for nitrate in stream water.

Your Score: _____



Phosphate:

There is no standard acceptable level of phosphorous in streams. It will depend on a number of factors, especially the size of the stream and the amount of light the stream receives. However, if you have sites where the entire stream bottom is covered with aquatic plants/algae, then you likely have a phosphorous concern.³

Your Score: _____



Your Score:

Water temperature:



Temperature is a very critical aspect of water quality to both plant and animal life. The amount of biological activity and rates of chemical/metabolic reaction increase significantly with a slight increase in water temperature. Ideal temperatures vary with different species, but high temperatures in streams disrupt the naturally regulated timing of temperature related events such as migration and reproduction.



Another issue critical to water quality is thermal pollution. This is the result of using water for cooling purposes, most frequently for power plants. Rapid shifts in temperature, which can result from a pipe dumping thermally polluted water into a creek or stream may have significant adverse effects on both plants and animals.⁴



The goal is for the water temperature to be approximately 10, or more, degrees cooler than the air temperature.

Your Score:

Fecal Coliform:



Fecal matter in a stream can be attributed to raw human or animal waste, or feces. Most commonly it is the result of sewage draining into the water, or animal waste fertilizers. Here is an example to help you understand:



Q: If there is bear poop leaking into the edge of a swiftly flowing river (25,000 gallons per minute), how likely are you to get sick from drinking the water?

A: Very likely. The amount of fecal colonies/100ml is ten times the amount of what the federal government has set for safe drinking water.⁵



Federal Standards for Fecal Coliform:

- Drinking water: 1 colony/100 ml
- To swim safely: less than 200 colonies/100 ml

Your Score:



Dissolved Oxygen:

This measurement tells how much oxygen is available in the water for fish and other aquatic organisms to breathe. Healthy waters generally have high levels of DO (some areas like swamps, naturally have low levels of DO). Just like human beings, aquatic life needs oxygen to survive. Several factors can affect how much DO is in the water. These include temperature, the amount and speed of flowing water, the plants and algae that produce oxygen during the day and take it back at night, pollution in the water and the composition of the stream bottom. **GOAL IS MORE THAN 9 MG/L**



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4. Urban Watershed Project: Temperature (1999). <http://www.kernsite.com>
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6. What's Up With Our Nation's Waters?(2002) U.S. Environmental Protection Agency. EPA 841-F-02-002