

# Troubleshooting Water Chemistry Ranges

## Acceptable Ranges for Chemical Parameters

Certain water quality measurements usually tend to fall within a well-defined range. Values outside this range are due to unusual water quality conditions or analyst error. If any of your water quality measurements fall outside the following range it may be unusual for that stream, so please make two more measurements of that water quality parameter and report all three measurements on the data sheet.

**Water Temperature** 0°-34°C *is within the normal range.*

**Dissolved Oxygen** 5-15 mg/L *is within the normal range.*

### Trouble-shooting procedure for an unusual DO reading:

1. Check to see if there are any bubbles remaining in the bottle. To avoid bubbles, over fill the Dissolved Oxygen bottle. If a bubble remains, pour the contents into a waste receptacle and begin again.
2. Check the dates on the packaged chemicals to ensure they aren't outdated.
3. If chemicals are outdated please call (800)781-1989 (voice mail) and request new chemicals.
4. If chemicals are not outdated, repeat the procedure again.

Rinse the Dissolved Oxygen bottle three times in the stream water and gather another sample. Follow the written procedures carefully. If the second result is not within 1 mg/L of the first result, repeat the procedure a third time and report all three readings on your Water Chemistry Data Sheet and make appropriate comments.

**pH** 6.5-9 Standard Units *are within the normal range.*

### Conductivity Calibration Troubleshooting.

*After calibration, the conductivity meter reading may drift  $\pm 20 \mu\text{s/cm}$  while submerged in calibration solution. If the meter drifts more than  $\pm 20 \mu\text{s/cm}$ , your calibration solution will need to be replaced.*

### Nitrate (NO<sub>3</sub>-N) Nitrogen

*An unusual reading for most streams is one greater than 2 mg/L. If a sampling site is less than 2 miles downstream of a wastewater treatment plant discharge, an unusual reading would be one greater than 10mg/L.*

### **Ammonia (NH<sub>3</sub>-N) Nitrogen**

*An unusual reading for most streams is one greater than 1 mg/L. If the sampling site is less than 2 miles downstream of a wastewater treatment plant discharge, an unusual reading would be one greater than 3mg/L.*

### **Phosphate (PO<sub>4</sub>)**

*An unusual reading for most streams is one greater than 0.2 mg/L. If the sampling site is less than 2 miles downstream of a wastewater treatment plant discharge, or the stream is very muddy, an unusual reading would be one greater than 4.0 mg/L.*

**Do not use any of the multipliers mentioned at the end of the directions found in the chemical kits.**

**Don't feel bad about using up the chemicals in your kit. Please notify us if you need more.**