



Otter Point Creek Environmental Survey

*An Interactive Exercise Combining Middle and High School
Class, Field and Laboratory Experiences*

- Q-value Graphs -

The following graphs are required to determine the Q (quality) value for each result from your Field Collection and Lab Work Data Record Sheets. These have been mathematically established for this type of work and provide a qualitative interpretation to your quantifiable data. Be sure that you are using the correct units of measurement and that you manipulate the graphs correctly. Below are listed some hints and suggestions for using the graphs:

1. DO (Dissolved Oxygen) – First, you must determine the percent saturation from your calculations of mg/L DO. This is done by using the graph in *Figure 6-1*. Plot the temperature at which your DO sample was taken and the determined DO Concentration (in mg/L). Connect the two points with a straight line. The point on the diagonal graph (DO Saturation (%)) where the straight line intersects is your resulting DO Saturation number. Once you have this number, use *Figure 6-2*. Determine the DO Q-value by determining where the DO Saturation number intersects the curve.
2. FC (Fecal Coliform) – Use *Figure 10-1*. Once again, be sure to use the correct graph with the units of measurement you are using. Determine the FC Q-value by determining where your FC number intersects the curve.
3. pH (Acidity) – Use *Figure 2-2*. Determine the pH Q-value by determining where your pH number intersects the curve.
4. BOD (Bio-chemical Oxygen Demand) – Use *Figure 7-1*. Determine the BOD Q-value by determining where your BOD number intersects the curve.
5. Δ Temp. (Temperature Change) – Use *Figure 3-1*. Remember to use the Celcius temperature scale. Determine the Δ Temp. Q-value by determining where your Δ Temp. number intersects the curve.
6. Phos. (Phosphate) – Use *Figure 8.1*. Determine the Phos. Q-value by determining where your Phos. number intersects the curve.
7. Nitr. (Nitrate) – Use *Figure 9-1*. Determine the Nitr. Q-value by determining where your Nitr. number intersects the curve.
8. Turbidity (Secchi Disk Readings) – Use *Figure 4-3*. Determine the Turbidity Q-value by determining where your Turbidity number intersects the curve.
9. TSS (Totals Suspended Solids) – Use *Figure 5-1*. Determine the TSS Q-value by determining where your TSS number intersects the curve.