Ministry of Environment and Climate Change Strategy

SURFACE WATER QUALITY STEWARDSHIP TOOLBOX

What do my results mean?

What do the result values mean in terms of water quality?

It is important to consider water quality changes over time to assess impacts from watershed activities and water quality trends. Each watershed has specific characteristics and thus can have different natural or background water quality. Interpretation of results should be done with caution, and data should always be reviewed by a qualified professional specializing in water quality. Please see BC Water Quality Guidelines (BCWQG) for detailed guidelines (https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-quality/water-quality-guidelines/approved-water-quality-guidelines). More information about detailed interpretation of results can be found in the BC ENV Guidelines for Interpreting Water Quality data (https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nr-laws-policy/risc/guidlines_for_interpreting_water_quality_data.pdf).

General interpretation of some common field parameters is given below:

- **Temperature:** Aquatic life can only survive in certain temperature ranges. Average weekly temperatures should meet guidelines to protect the most sensitive juvenile salmonids and other fish present in the stream during periods of highest temperature (e.g., 17°C for Coho salmon). Peak summer temperatures can exceed guidelines for a short time, and this is acceptable if fish can move to cooler refuge areas. High water temperatures can indicate lack of riparian cover or reflect the nature of wider, shallower stream reaches.
- **Dissolved Oxygen (DO):** The BCWQG for dissolved oxygen to protect aquatic life is 5 mg/L. DO values below this limit are not ideal for fish. More sensitive life stages need even higher oxygen levels. Low DO can be an indication of high biological oxygen demand or low flow.
- **Specific Conductance (SpC):** This is the ability of the water to conduct electricity and tells us about the amount of ions (e.g., salts and inorganic materials) dissolved in the water. Some areas naturally have more dissolved solids (e.g., groundwater inputs to the stream), and thus higher SpC values. Less dilution and/or more suspended or dissolved particles will increase values, and rainfall can dilute to decrease values (some high rainfall coastal areas of BC can have streams with specific conductance of <80 µS/cm). Where stormwater runoff from roads or impervious surfaces occurs, values can increase during the fall rains from materials washed off the land.
- **Turbidity:** Generally, in waterbodies where the background condition is very clear water, values will be below 1 NTU. Higher values will be seen in the fall (rain events), where there is a lot of algal growth (usually in summer) and where there are contributions of pollution (e.g., stormwater and agricultural runoff). Major storm events or disturbance can result in much higher values.