GLOSSARY OF TERMS

Acid Rinse – A process whereby equipment is rinsed thoroughly with acid, ensuring that the acid makes contact with all surfaces likely to be in contact with the sample.

Acid Soak – A process whereby equipment is soaked for a period of time (often 12-24 hours, though can be as short as 30 minutes).

Automated sampling – a system that allows samples and/or measurements to be collected at pre-determined intervals and/or times without humans physically collecting the actual measurements.

Benthos - the organisms which live on, in, or near the seabed.

Biofilm - the largely biotic community attached to rocks and cobbles of a stream or lake, largely made up of periphyton with associated invertebrates, zooplankton, and usually some abiotic material.

Bottle blanks - measure contamination from improper cleaning of bottles.

CALA - Canadian Association for Laboratory Accreditation.

Chain of custody - a form used if the project is being carried out for a legal reason (e.g., compliance monitoring). This form guarantees that the sample has not been tampered with, that only authorized personnel have handled the samples, and that appropriate field sampling techniques for the program are used. All transfers of samples are noted on the form. Transfer procedures are also described to make sure samples are properly protected and preserved. Any changes in sampling or sample storage are noted on the chain of custody form.

Composite sample – a sample composed of several sub-samples typically collected at different temporal or spatial intervals.

Deployment tubes – tubes used in automated stations to protect sensors and cables form environmental stressors or human vandalism.

Discrete or grab sample – a sample taken at one point in time.

Drift net sampler – a sampler used to collect the emerging or drifting invertebrate stages.

Drum roller – a sampler which rotates and collects the top surface layer of the water.

Ekman grab samplers- sediment samplers that are most efficient in softer sediments.

Euphotic or photic zone - is the depth of the water in a lake or ocean, that is exposed to sufficient sunlight for photosynthesis to occur. The depth of the photic zone can be greatly affected by seasonal turbidity.

Field blank samples - measure contamination from bottles, collection methods, the atmosphere, and from preservatives. Field Blanks are prepared in the same manner as a trip blank and makes the journey as a trip blank; however, the field blank sample is opened and the collection process is mimicked.

Field quality assurance program - a systematic process, involving laboratory and data recording quality assurance processes/procedures. Field Quality Assurance provides a specified degree of confidence in the data collected for an environmental survey.

Field replicates - provide precision of field plus laboratory plus environmental heterogeneity.

Filtration – passing a sample through a pre-determined filter size. The filter can be paper or glass.

Filtration blanks - used to measure contamination from the filters and the filtration apparatus.

Grab or discrete sample – a sample taken at one point in time.

Hess cylinder sampler - one of the most commonly used benthic invertebrate samplers to sample erosional substrates in streams and rivers. This sampler is suited to a range of erosional substrate types such as gravel, cobble, small boulders, and sand.

JSA - job safety analysis identifies what work will take place, lists all of the potential hazards that could be encountered during the work, and details the measures necessary to avoid or mitigate the hazard.

Kemmerer sampler – a sampler used for lake sampling > 1 m in depth.

Meiofauna - defined as microscopic animals that pass through 500 μm screen but are retained by a 64 μm screen.

Microbial source tracking - a specialized area of determining the source of bacteriological contamination.

MSDS - material safety data sheets provide detailed hazard-precautionary and first aid treatment information for controlled substances. MSDS provide important information on the hazardous ingredients, physical data, fire and explosion hazard, reactivity data, health effects, preventative measures, first aid measures and preparation information.

Multi-sampler – a sampler that collects several sample containers at one time thereby ensuring that the same mass of water is collected for all analyses at the same time.

Neill cylinder sampler - one of the most commonly used benthic invertebrate samplers to sample erosional substrates in streams and rivers. This sampler is suited to a range of erosional substrate types such as gravel, cobble, small boulders, and sand.

Package tests – a large number of variables measured in a laboratory for a fixed price, instead of having analyses completed for individual variables.

PAR – photosynthetically-active radiation is a slightly narrower band of radiation (400 – 700 nm) than visible light, and is the area of the spectrum used by plants. The measurement of PAR profiles is undertaken to measure PAR attenuation with water depth.

Parafilm - self-sealing, moldable and flexible film.

PFD - personal flotation device that allows you to float when in the water.

Ponar grab samplers – sediment samplers that are most efficient at sampling harder sediments.

Proficiency testing - the use of inter-laboratory comparisons to determine the performance of individual laboratories for specific tests or measurements.

Proficiency Testing (PT) Program - targets high volume testing in the disciplines of inorganic chemistry, organic chemistry, toxicology, occupational health and microbiology for the following matrices: water, waste oil, soil/sediment, air collection media (e.g. quartz and cellulose acetate filters, and charcoal tubes) and asbestos testing.

Replicate sample – a sample collected at the same time as the original sample to determine the precision (how close the results are to each other) of tests.

Secchi disc – a flat plate with four quadrants painted alternating white and black used in the field to measure the transparency of the water column. The measurement is made by allowing the disc to drop to the point where it is no longer visible, then raising the disc until it is visible and averaging the two depths.

Sensors - electrical, electrochemical, or optical in nature and respond to changing water conditions with an output signal that is processed and displayed or recorded.

SOD (Sediment oxygen demand) - a measure of the oxygen consumed by biochemical decomposition of organic matter in stream or lake deposits.

Sonde – multiple sensors in one configuration.

Split samples - aliquots taken from the same container and assumed to be identical. These samples can be sent to two or more laboratories for separate analysis and the results can be used to determine inter-laboratory variability of the different laboratories or the consistency of results within one laboratory.

Standard reference materials or samples - (where the actual value has been certified independently) are used to determine if the results are accurate (close to the true value).

TDG - Transportation of Dangerous Goods.

Surber sampler - used to collect invertebrate samples for depths less than 30 cm.

Travelling-Kick-and-Sweep - the standard sampling method typically applied by wading along transects through the habitat of interest, kicking the substrate to dislodge benthos, and collecting dislodged benthos by “sweeping” a hand-held net through the water.

Trip blanks – these bottles measure volatile compounds, they are usually prepared in the laboratory and simply travel with the required sample bottles. The trip blanks are placed along side the required sample bottles for the duration of the sample period and return to the laboratory without ever being opened.

v/v – volume to volume used in reference to the amount of acid in solution.

Van Dorn sampler – a sampler used for lake sampling sites > 2 m in depth.

WHMIS - Workplace Hazardous Materials Information System ensures that all controlled products are labeled. This ensures that workers can identify all products, the dangers associated with products and any necessary safety precautions.