

13.0 Glossary of Terms

Acceptance criteria	The numerical limits, prescribed by an approved analytical method, internal data or other pre-established data quality objectives, by which an analytical system or analysis result is verified. Also known as control limits. Acceptance criteria are usually established for calibration, precision, sensitivity and accuracy.
Acclimation	Response by an animal that enables it to tolerate a change in a single factor (e.g. temperature) in its environment.
Accuracy	<p>The degree of agreement of a measurement (or an average of measurements of the same thing), X, with an accepted reference or true value, T, usually expressed as the difference between the two values, X-T, or the difference as a percentage of the reference or true value, $100(X-T)/T$, and sometimes expressed as a ratio, X/T. Accuracy is a measure of the bias in a system.</p> <p>A measure of the degree of conformity or closeness of agreement of the mean of a measured value with the true value or with an accepted standard value.</p>
Alternative method	A field procedure or analytical laboratory method that involves the collection or testing of environmental samples for an analyte (chemical compound, component, microorganism, etc.) in a specified matrix where a Department-approved method already exists. An alternative method is one intended to be used in place of an existing Department-approved laboratory method or field procedure.
Ambient Monitoring	Monitoring within natural systems (e.g., lakes, rivers, estuaries, and wetlands) to determine existing conditions.
Analyte	Any measured quantity reported in final units of concentration.
Analyte-free water	Water free of all positive or negative analytical interferences in which all analytes of interest are below method detection limits.
Aquatic Assemblage	An organism group of interacting populations in a given waterbody, for example, fish assemblage or a benthic macroinvertebrate assemblage.
Aquatic Biota	Collective term describing the organisms living in or depending on the aquatic environment.
Aquatic Community	Association of interacting assemblages in a given waterbody, the biotic component of an ecosystem (see also aquatic assemblage).
Aquatic Life Use	A beneficial use designation in which the waterbody provides suitable habitat for survival and reproduction of desirable fish, shellfish, and other aquatic organisms.
Areal Composite Sample	A sample composited from individual grab samples collected on an areal or cross-sectional basis.
Assemblage	An association of interacting populations of organisms in a given waterbody. Examples of assemblages used for biological assessments include: algae, amphibians, birds, fish, reptiles and amphibians, macroinvertebrates (insects, crayfish, clams, snails, etc.), and aquatic plants.

Assessment	The evaluation process used to measure the performance or effectiveness of a system and its elements.
Attribute	A measurable component of a biological system.
Audit	A systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives. check to determine the quality of the operation of a function, procedure or activity.
Benthic macroinvertebrates	See benthos.
Benthos	Animals without backbones, living in or on the sediments, a size large enough to be seen by the unaided eye, and which can be retained by a U.S. Standard No. 30 sieve (28 openings/inch, 0.595-mm openings). Also referred to as benthic macroinvertebrates, infauna, or macrobenthos.
Bias	The systematic or persistent distortion of a measurement process that causes errors in one direction (i.e., the expected sample measurement is different from the sample's true value).
Bias Error	The fixed total component of the total measurement error.
Biodiversity	Refers to the variety and variability among living organisms and the ecological complexes in which they occur. Diversity can be defined as the number of different items and their relative frequencies. For biological diversity, these items are organized at many levels, ranging from complete ecosystems to the biochemical structures that are the molecular basis of heredity. Thus, the term encompasses different ecosystems, species, and genes.
Biological Assessment (bioassessment)	Using biomonitoring data biological surveys and other direct measurements of resident biota in surface waters to evaluate the biological condition or health of a place (e.g., a stream, wetland, or woodlot).
Biological Criteria or Biocriteria	Narrative or numeric expressions that describe the biological condition (structure and function) of aquatic communities inhabiting waters of a designated aquatic life use. Biocriteria are based on the numbers and kinds of organisms present and are regulatory-based biological measurements.
Biological indicators	plant or animal species or communities with a narrow range of ecological tolerance that may be selected for emphasis and monitored because their presence and relative abundance serve as a barometer of ecological conditions within a management unit.
Biological Integrity	The ability of an aquatic ecosystem to support and maintain a balanced, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitats within a region.
Biological Monitoring or Biomonitoring	Sampling the biota of a place (e.g., a stream, a woodlot, or a wetland); use of a biological entity as a detector and its response as a measure to determine environmental conditions. Toxicity tests and ambient biological surveys are common biological monitoring methods.

Biological Survey or Biosurvey	Collecting, processing, and analyzing a representative portion of the resident aquatic community to determine its structural and/or functional characteristics.
Bioregion	Any geographical region characterized by a distinctive flora and fauna (see also ecoregion).
Biota	The plants and animals living in a habitat.
Blank	An artificial quality control sample of an analytical matrix designed to monitor the introduction of artifacts and interferences into a sample collection or analytical system. A sample subjected to the usual analytical or measurement process to establish a zero baseline or background value. Sometimes used to adjust or correct routine analytical results. A sample that is intended to contain none of the analytes of interest. A blank is used to detect contamination during sample handling preparation and/or analysis.
Blind sample	A quality control sample of known composition whose analytical characteristics are unknown to an audited analyst or organization, but known by the submitter. Also called a Performance Test Sample.
Calibration	<p>The process by which the correlation between instrument response and actual value of a measured analyte or parameter is determined.</p> <p>The process of comparing the response of an instrument to a standard instrument over some measurement range. It is applied as means of reduction of bias error of an instrument.</p>
Calibration curve	A curve that plots the concentration of known analyte standards against the instrument response to the analyte. Also known as a standard curve.
Calibration standard	Solutions or purified quantities of a substance or material with a verifiable composition that are used to measure the amount or value of an analyte or parameter in an unknown sample. Calibration standards are used to establish a calibration curve or instrument response factor.
Chain-of-Custody	An unbroken trail of accountability that ensures the physical security of samples, data, and records.
Chemical Abstracts Service (Cas) Registry Number	A unique number assigned to a chemical by the Chemical Abstracts Service Registry. The CAS is a division of the American Chemical Society and is internationally recognized as the producer of the largest and most comprehensive database of chemical information. The CAS Registry Number provides an unambiguous way to identify a chemical substance or molecular structure.
Chronological Calibration Bracket	The interval of time between verifications within which environmental sample measurements must occur. The instrument or meter is calibrated or verified before and verified after the time of environmental sample measurement(s).
Clean Water Act (CWA)	An act passed by the U.S. Congress to control water pollution (formerly referred to as the Federal Water Pollution Control Act of 1972). Public Law 92-500, as amended. 33 U.S.C. 1251 et seq. Clean Water Act Section 303(d): Report to Congress from EPA that identifies those waters for which existing controls are not sufficiently stringent to achieve applicable water quality standards.

Clean Water Act Section 305(b)	Biennial reporting requires description of the quality of the Nation's surface waters, evaluation of progress made in maintaining and restoring water quality, and description of the extent of remaining problems by using biological data to make aquatic life use support decisions.
Coefficient of Variation	An attribute of distribution. It is the standard deviation divided by the mean.
Collocated Samples	Two or more portions collected at the same point in time and space so as to be considered identical. These samples are also known as field replicates and should be identified as such.
Community	All the groups of organisms living together in the same area, usually interacting or depending on each other for existence.
Comparability	Expresses the statistical confidence with which one data set can be compared to another.
Completeness	Expressed as the amount of usable data obtained compared to the amount that was expected to have been obtained. (Takes into account samples or data that did not meet the specified data quality objectives.
Composite Sample	A sample collected over time, formed either by continuous sampling or by mixing discrete samples. These samples reflect the average characteristics during the compositing periods.
Composition (Structure)	The composition of the taxonomic grouping such as fish, algae, or macroinvertebrates relating primarily to the kinds and number of organisms in the group.
Comprehensive Everglades Restoration Plan (CERP)	A joint-agreement with USACE and SFWMD to addressing the solutions to Everglades's restoration.
Concentration	The amount of one substance dissolved or contained in a given amount of another substance or medium. For example, sea water has a higher concentration of salt than fresh water does.
Confidence level	The statistical probability associated with an interval of variance. Usually expressed as percent probability. The result being tested is significant if the calculated probability is greater than 90 percent and is highly significant if the probability is greater than 99 percent.
Conformance	An affirmative indication or judgment that a product or service satisfies the relevant specification, contract, or regulation.
Container Blanks	Containers used for shipment of solids (e.g. resealable bags), disposable plastic vials, which are not typically pre-cleaned because ultra-trace mercury concentrations are not involved, are rinsed with Mill-Q or DI water and the rinsate analyzed.
Continuing calibration standard	A standard analyzed during a measurement process to verify the accuracy of a calibration curve or other instrument calibration.
Continuing Calibration Verification (CCV)	The instrument or meter calibration is checked or verified by measuring a calibration standard of known value as if it were a sample and comparing the measured result to the calibration acceptance criteria listed in the SOP.

Corrective action	Any measure taken to rectify conditions adverse to quality and, where possible, to prevent recurrence.
Criteria (singular = criterion)	Statements of the conditions presumed to support or protect the designated use or uses of a waterbody. Criteria may be narrative or numeric.
Data quality	The features and characteristics of a set of data that determine its suitability for a given purpose. Examples of data quality include accuracy, precision, sensitivity, representativeness and comparability.
Data quality assessment	The scientific and statistical evaluation of data to determine if data obtained from environmental operations are of the right type, quality, and quantity to support their intended use.
Data quality indicators (DQI)	A series of indicators that collectively define the quality of the submitted data. These indicators include <i>qualitative indicators</i> such as precision, accuracy, completeness and detection limits, and the <i>quantitative indicators</i> of representativeness and comparability.
Data quality objective process	A systematic planning tool based on the scientific method that identifies and defines the type, quality, and quantity of data needed to satisfy a specified use. DQOs are the qualitative and quantitative outputs from the DQO Process.
Data quality objectives (DQO)	A set of specifications established for an intended use of data including the type of decisions that will be made based on the results of the project.
Data reduction	The process of transforming the number of data items by arithmetic or statistical calculations, standard curves, and concentration factors, and collating them into a more useful form. Data reduction is irreversible and generally results in a reduced data set and an associated loss of detail.
Data validation	An analyte and sample specific process that extends the evaluation of data beyond method, procedural, or contractual compliance (i.e., data verification) to determine the analytical quality of a specific data set.
Data verification	The process of evaluating the completeness, correctness and conformance/compliance of a specific data set against the method, procedural, or contractual requirements (EPA QA/G-8).
Density-Dependence	Regulation of the size of a population by mechanisms that are themselves controlled by the size of that population (e.g. the availability of resources) and whose effectiveness increases as population size increases.
Design	The specifications, drawings, design criteria, and performance specifications. Also, the result of deliberate planning, analysis, mathematical manipulations, and design processes.
Designated Use	Classification designated in water quality standards for each waterbody or segment that defines the optimal purpose for that waterbody. Examples are drinking water use and aquatic life use.
Detection limit (MDL)	The smallest amount of an analyte that can be measured with a stated probability of significance. Also known as a Method Detection Limit.
Diatom	Microscopic algae with cell walls made of silicon and have two separating halves.

Discrete sample	A discrete (grab) sample is defined as a discrete aliquot representative of a specific location at a given point in time.
Diversity	A combination of the number of taxa (see taxa richness) and the relative abundance of those taxa. A variety of diversity indexes have been developed to calculate diversity.
Document control	The policies and procedures used by an organization to ensure that its documents and their revisions are proposed, reviewed, approved for release, inventoried, distributed, archived, stored, and retrieved in accordance with the organization's specifications.
DOH ELCP	Department of Health Environmental Laboratory Certification Program. This program is recognized by the National Environmental Laboratory Accreditation Program (NELAP) as an authority with responsibility and accountability for granting accreditation for specified fields of laboratory testing. The standards used by the DOH ELCP are those established by the National Environmental Laboratory Accreditation Conference (NELAC) as specified in Chapter 64E-1, F.A.C.
Ecological Assessment	A detailed and comprehensive evaluation of the status of a water resource system designed to detect degradation and if possible, to identify causes of that degradation.
Ecological Integrity	The condition of an unimpaired ecosystem as measured by combined chemical, physical (including physical habitat), and biological attributes.
Ecoregions	A relatively homogeneous ecological area defined by similarity of climate, landform, soil, potential natural vegetation, hydrology, or other ecologically relevant variables (see also bioregions).
Ecosystem	A community of interaction among animals, plants, and microorganisms, and the physical and chemical environment in which they live.
Environmental conditions	The description of a physical medium (for example, air, water, soil, sediment) or a biological system expressed in terms of its physical, chemical, radiological, or biological characteristics.
Environmental data	Any measurements or information that describe environmental processes, location, or conditions; ecological or health effects and consequences; or the performance of environmental technology. For EPA, environmental data include information collected directly from measurements, produced from models. Compiled from other sources such as data bases or the literature.
Environmental data operation	Work performed to obtain, use, or report information pertaining to environmental processes and conditions.
Environmental monitoring	The process of measuring or collecting environmental data.
Environmental processes	Any manufactured or natural processes that produce discharges to, or that impact, the ambient environment.
Environmental sample	Any sample from a natural or other source that may reasonably be expected to contribute pollution to or receive pollution from ground waters or surface waters of the state. [Definition per Rule 10D-41.101(7), F.A.C.]

Environmental technology	An all-inclusive term used to describe pollution control devices and systems, waste treatment processes and storage facilities, and site remediation technologies and their components that may be used to remove pollutants or contaminants from, or to prevent them from entering, the environment. Examples include wet scrubbers (air), soil washing (soil), granulated activated carbon unit (water), and filtration (air, water). Usually, this term applies to hardware-based systems; however, it can also apply to methods or techniques used for pollution prevention, pollutant reduction, or containment or contamination to prevent further movement of the contaminants, such as capping, solidification or vitrification, and biological treatment.
Equipment blank	Quality control blanks prepared on-site during sampling by pouring analyte-free water through decontaminated field equipment into appropriate sample containers for each matrix and analyte group of interest. Equipment blanks are chemically preserved, stored, transported and analyzed with the collected field samples.
External	Refers to operations, personnel, documents and protocols from a party that is separate from or outside the specified organization.
Field blanks	Quality control blanks prepared on-site during sampling by pouring analyte-free water into appropriate sample containers for each analyte group of interest. Field blanks are chemically preserved, stored, transported and analyzed with the collected field samples.
Field Duplicate (FD)	Measures the variability in the sampling process.
Field Quality Control	An overall system of technical activities performed during the trip preparation, sample collection, field data collection, and data verification/assessment phase of the data collection process.
Field spike	An environmental sample fortified to a known and validated concentration in the field during sampling. These quality control samples are sometimes submitted as blind samples to the analyzing laboratory.
Functional Groups	A means of dividing organisms into groups, often based on their method of feeding (e.g., shredder, scraper, filterer, predator), type of food (e.g., fruit, seeds, nectar, insects), or habits (e.g., burrower, climber, clinger).
Functions	The roles that wetlands serve, which are of value to society or environment.
Graded approach	The process of applying managerial controls to an item or work according to the intended use of the results and the degree of confidence needed in the quality of the results.
Guidance	A suggested practice that is not mandatory, intended as an aid or example in complying with a standard or specification.
Habitat	The sum of the physical, chemical, and biological environment occupied by individuals of a particular species, population, or community, including the food, cover, and space resources needed for plant and animal livelihood.
Holding Times (HT) (Maximum Allowable Holding Times)	The maximum times samples may be held prior to analysis and still be considered valid or not compromised.

Hydrogeomorphic (HGM) Approach	A functional assessment method that compares a wetland's functional capacity to similar wetland types (as defined by HGM classification) that are relatively unaltered. HGM functions normally fall into one of four major categories: (1) hydrologic (e.g., storage of surface water), (2) biogeochemical (e.g., removal of elements and compounds), (3) habitat (e.g., maintenance of plant and animal communities) and (4) human activities (e.g., aesthetics, recreation, education, and commercial production). Minnesota's hydrogeomorphic classes include riverine, depressional, slope, mineral soil flats, organic soil flats, estuarine fringe, and lacustrine fringe.
Hydrology	The science of dealing with the properties, distribution, and circulation of water both on the surface and under the earth.
Impact	A change in the chemical, physical (including habitat), or biological quality or condition of a waterbody caused by external forces.
Independent assessment	An assessment performed by a qualified individual, group, or organization that is not a part of the organization directly performing and accountable for the work being assessed.
Index of Biological Integrity (IBI) 294	A method for describing water quality using characteristics of aquatic communities, such as the types of fish and invertebrates found in the water body. It is expressed as a numerical value between 0 (lowest quality) to 100 (highest quality).
Initial Calibration (IC)	The instrument or meter electronics are adjusted (manually or automatically) to a theoretical value (e.g., dissolved oxygen saturation) or a known value of a calibration standard.
Initial Calibration Verification (ICV)	The instrument or meter calibration is checked or verified directly following initial calibration by measuring a calibration standard of known value as if it were a sample and comparing the measured result to the calibration acceptance criteria listed in the SOP.
Inspection	The examination or measurement of an item or activity to verify conformance to specifications.
Instrument detection limit	The smallest amount of an analyte of interest that generates an instrument response (signal) under prescribed conditions such that the magnitude of the signal is larger than the absolute uncertainty (error) associated with the signal.
Interference	Any substance in a sample that may fortify or diminish the amount of an analyte or otherwise affect the ability to detect and quantify an analyte in the sample.
Internal	Refers to operations, personnel, documents and protocols within the specified organization.

Internal standard	A compound having similar chemical characteristics to the compounds of interest but which is not normally found in the environment or does not interfere with the compounds of interest. A known and specified concentration of the standard is added to each sample prior to analyses. The concentration in the sample is based on the response of the internal standard relative to that of the calibration standard and the compound in the standard.
Legal or evidentiary chain of custody	A sample custody protocol in which all personnel, time intervals and supporting activities associated with the collection, possession, handling, processing, analysis, transport, storage and disposal of a specific sample are documented.
Limnetic Community 97	The area of open water in a lake providing the habitat for phytoplankton, zooplankton and fish.
Littoral Community	The shallow areas around a lake's shoreline, dominated by aquatic plants. The plants produce oxygen and provide food and shelter for animal life.
Macroinvertebrates	Animals without backbones that can be seen with the naked eye. Includes insects, crayfish, snails, mussels, clams, fairy shrimp, etc.
Matrix spike sample	A sample prepared by adding a known amount of the target analyte to a specified amount of a matrix. Spiked samples are used, for example, to determine the effect of the matrix on a method's recovery efficiency.
Measurement quality objectives	The individual performance or acceptance goals for the individual Data Quality Indicators such as precision or bias.
Metadata	Information that describes the data and the quality criteria associated with their generation.
Method	A body of procedures and techniques for performing an activity (for example, sampling, chemical analysis, quantification), systematically presented in the order in which they are to be executed.
Method blank	A blank of an appropriate analyte-free matrix that is processed (digested, extracted, etc.) and analyzed with a specified sample set by the laboratory.
Method detection limit (MDL)	The smallest amount of an analyte that can be analyzed by a given measurement system under specified conditions of sample processing and analysis and reported with a 99% confidence that the concentration of the analyte in the sample is greater than zero.
Microinvertebrates	Animals without backbones that are not large enough to be seen by the unaided eye; they will not be retained by a U.S. Standard No. 30 sieve (28 meshes per inch, 0.595 mm openings).
Multimetric	Analysis techniques using several measurable characteristics of a biological assemblage.
Multivariate Community Analysis	Statistical methods (e.g. ordination or discriminant analysis) for analyzing physical and biological community data using multiple variables.
Narrative Biological Criteria	General statements of attainable or attained conditions of biological integrity and water quality for a given designated aquatic life use.

National Environmental Laboratory Accreditation Conference (NELAC)	A voluntary organization of state and federal environmental agencies, sponsored by the EPA, and formed to establish and promote mutually acceptable performance standards for the operation of environmental laboratories. These standards cover both analytical testing of environmental samples and the laboratory accreditation process. The goal of NELAC is to foster the generation of environmental laboratory data of known and documented quality through the development of national performance standards for environmental laboratories and other entities directly involved in the environmental field measurement and sampling process.
National Environmental Laboratory Accreditation Program (NELAP)	The program that implements the NELAC standards. The EPA administers NELAP.
Non-Point Source Pollution	Pollution that occurs when rainfall, snowmelt, or irrigation runs over land or through the ground, picks up pollutants, and deposits them into rivers, lakes, and coastal waters or introduces them into ground water.
NPDES	National Pollutant Discharge Elimination System.
Numeric Biocriteria	Numerical indices that describe expected attainable community attributes for different designated aquatic life uses.
Organic	Generally considered as originating from plants or animals, and made primarily of carbon and hydrogen. Scientists use the term organic to mean those chemical compounds which are based on carbon.
Outlier	An extreme observation that is shown to have a low probability of belonging to a specified data population.
Oxidation Reduction Potential	A measurement of the potential for a reaction to occur. These reactions mediate the behavior of many chemical constituents in drinking water.
Parameter	A quantity, <u>usually</u> unknown, such as a mean or a standard deviation characterizing a population. Commonly misused for “variable”, “characteristic”, or “property”.
Parent sample	A sample from which aliquots or subsamples are taken for processing or testing purposes.
Performance audit	An audit where quantitative data are independently obtained for comparison with routinely obtained data in a measurement system. Examples of these audits are EPA performance evaluation programs, commercial performance evaluation programs, split sampling programs involving at least two laboratories and/or sampling organizations and blind samples.
Performance criteria	Address the adequacy of information that is to be collected for the project. These criteria often apply to new data collected for a specific use (“primary” data).
Performance test samples	A sample submitted for analysis whose composition and concentration are known to the submitter but unknown to the analyst. Also known as a blind sample.
Phytoplankton	Algae – the base of the lake’s food chain, it also produces oxygen

Point Source	Origin of a pollutant discharge from a discrete conveyance typically thought of as an effluent from the end of a pipe.
Pollution	The Clean Water Act (Section 502.19) defines pollution as "the human-made or human-induced alteration of chemical, physical, biological, and radiological integrity of water."
Population	Aggregate of individuals of a biological species that are geographically isolated from other members of the species and are actually or potentially interbreeding.
Practical quantitation limit (PQL)	The smallest concentration of an analyte that can be reported with an associated precision. FDEP defines a practical quantitation limit as: $PQL = 4 \times MDL$.
Precision	<p>A measure of mutual agreement among individual measurements of a parameter or an analyte, usually under prescribed similar conditions. Precision is best expressed in terms of the standard deviation. Various measures of precision are used depending upon the "prescribed similar conditions."</p> <p>The degree of consistency of independent measurements of a homogeneous sample under the same conditions. It is synonymous with repeatability.</p>
Pre-Cleaned Equipment Blank (PCEB)	Monitors the on-site sampling environmental, sampling equipment decontamination, sample container cleaning, the suitability of sample preservatives and analyte-free water, and sample transport and storage conditions.
Process	A set of interrelated resources and activities that transforms inputs into outputs. Examples of processes include analysis, design, data collection, operation, fabrication, and calculation.
Processor blank	All equipment used in post-collection of solids (e.g. sediments, tissues) is to be rinsed with Mill-Q or DI water and the rinsate analyzed.
Proficiency Test (PT) Sample	A sample, the composition of which is unknown to the analyst, is provided to test whether the analyst/laboratory can produce analytical results within specified acceptance criteria.
Project audit	An independent review of all sampling and analytical documentation associated with a specific project or event in order to determine if the resulting data are valid and acceptable according to pre-established validation criteria and other data quality objectives. Enough documentation must be available so that a reviewer is able to reconstruct the history of a sample from time of sample collection (or sample container acquisition) through final results and sample disposal.
Protocol	The detailed plan for conducting a scientific procedure. A protocol for measuring a chemical in soil, water or air describes the way in which samples should be collected and analyzed.
Quality	The totality of features and characteristics of a product or service that bears on its ability to meet the stated or implied needs and expectations of the user.

Quality Assurance (QA)	<p>The system of management activities and quality control procedures implemented to produce and evaluate data according to pre-established data quality objectives.</p> <p>The set of programs, procedures necessary to assure data reliability.</p>
Quality assurance and quality control (QA/QC)	<p>A system of procedures, checks and audits to judge and control the quality of measurements and reduce the uncertainty of data. Some quality control procedures include having more than one person review the findings and analyzing a sample at different times or laboratories to see if the findings are similar.</p>
Quality assurance plans / Quality Manual/Quality Assurance Manual (QAM)	<p>An orderly assembly of detailed and specific procedures that delineates how data of known and accepted quality are produced.</p>
Quality assurance project plans (QAPP)	<p>QA plan written for a specific project outlining data quality objectives, sampling and analytical protocols and QC measures needed to satisfy the intended uses of the data.</p>
Quality Assurance Systems Requirements Manual (QASR)	<p>Quality Assurance System Requirements: CERP guidance manual addressing the Quality Assurance procedures and protocols for all forms of data collection including but not limited to chemical, biological, hydrological, and ecological.</p>
Quality control (QC)	<p>The system of measurement activities used to document and control the quality of data so that it meets the needs of data users as specified by pre-established data quality objectives.</p>
Quality control check sample	<p>A sample obtained from an independent source for which the level of an analyte has been validated or certified. Also known as a reference material. The sample is prepared and analyzed with a sample set of similar matrix. If the sample has been obtained from the National Institute of Standards and Technology, it is referred to as a Standard Reference Material.</p>
Quality control check standards	<p>Certified and traceable standard solutions or purified materials from a source other than routine calibration standards used to check the accuracy of a calibration.</p>
Quality control checks	<p>Standards or known samples from an independent source that are analyzed at a specified frequency.</p>
Quality management plan	<p>A document that describes the quality system in terms of the organization's structure, the functional responsibilities of management and staff, the lines of authority, and the interfaces for those planning, implementing, and assessing all activities conducted.</p>
Quality system	<p>A structured and documented management system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for ensuring quality in its work processes, products (items), and services. The quality system provides the framework for planning, implementing, and assessing work performed by the organization and for carrying out quality assurance procedures and quality control activities.</p>
Quantitative Calibration Bracket	<p>The instrument or meter is calibrated or verified at two known values that encompass the range of observed environmental sample measurement(s).</p>

Random Error	Sometimes called precision error; the true random error that characterizes an element of a set of measurements. It varies in a random, Gaussian-Normal manner from measurement to measurement.
Readiness review	A systematic, documented review of the readiness for the start-up or continued use of a facility, process, or activity. Readiness reviews are typically conducted before proceeding beyond project milestones and before initiation of a major phase of work.
Reagent blank	An aliquot of analyte-free water or solvent that is analyzed with a sample set.
Reagent spike	Samples of an appropriate analyte-free matrix (deionized water, sand, soil, etc.) that are fortified to a known and validated concentration of analyte(s) before sample preparation and subsequent analysis.
Reagent water	A sample of water that conforms to ASTM grades II, III or IV.
Record	A completed document that provides objective evidence of an item or process. Records may include photographs, drawings, magnetic tape, and other data recording media.
Recovery	The act of determining whether or not the methodology measures all of the analyte contained in a sample.
Reference Condition	Set of selected measurements or conditions of unimpaired or minimally impaired waterbodies characteristic of a waterbody type in a region.
Reference Site	Specific locality on a waterbody which is unimpaired or minimally impaired and is representative of the expected biological integrity of other localities on the same waterbody or nearby waterbodies.
Regionalization or Ecoregionalization	Procedure for subdividing a geographic area into regions of relative homogeneity in ecological systems or in relationship between organisms and their environment.
Relative Percent Difference (RPD)	A measure of precision, or the degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves; a data quality indicator.
Replicate sample	Samples that have been collected at the same time from the same source (field replicates) or aliquots of the same sample that are prepared and analyzed at the same time (laboratory replicates). Duplicate samples are one type of replicate sample. The analytical results from replicates are used to determine the precision of a system. If the concentration of analytes in the sample is below detectable limits, duplicate spike samples may be used to determine precision. Blind replicates (or duplicates) are replicates that have been collected (field replicates) or prepared (laboratory replicates) and are analyzed as separate samples whose replicate nature remains unknown to the analyst or organization.
Representativeness	Expresses the degree to which data for a sampled source accurately and precisely represent a characteristic or variation of the sampled source in terms of a measured analyte or parameter. The measure of the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition.

Research plan	A Quality Assurance Project Plan written for research activities as defined by Chapter 62-160.600, FACF.A.C.. The plan must contain or refer documents that contain the elements discussed in Chapter 62-160.600 (3), FACF.A.C..
Resolution	The degree of change of measured quantity detectable by the measuring device. It is a function of the instruments sampling frequency.
Sample custody	All records and documentation that trace sample possession, handling and associated supporting activities from the point of sample collection through transport, storage, processing, analysis and disposal of the sample.
Sample matrix	The natural or artificial medium from which a sample is collected. For the purposes of the FDEP SOPs, a matrix is categorized in terms of the sample source and associated collection technique.
Sample matrix spike	An environmental sample fortified to a known and validated concentration of analyte(s) before sample preparation and subsequent analysis.
Self-assessment	The assessments of work conducted by individuals, groups, or organizations directly responsible for overseeing and/or performing the work.
Sensitivity	The capability of a method or instrument to discriminate between measurement responses representing different levels (e.g., concentrations) of a variable of interest.
Spike	A substance that is added to an environmental sample to increase the concentration of the target analyte by known amount; used to assess measurement accuracy (spike recovery). Spike duplicates are used to assess measurement precision.
Spiked samples	Any samples fortified with a known and validated concentration of analyte.
Split samples	Replicates of the same sample that are given to two independent laboratories for analysis. Two or more representative portions taken from one sample in the field or in the laboratory and analyzed by different analysts or laboratories. Split samples are quality control samples that are used to assess analytical variability and comparability.
Standard Operating Standard Operating Procedures (SOPs)	A set of protocols designed to result in a specific outcome. A document that details the method for an operation, analysis, or action with thoroughly prescribed techniques and steps to be followed. It is officially approved as the method for performing certain routine or repetitive tasks.
Stressors	Physical and biological factors that adversely affect aquatic organisms.
Subsample	Refers to any derivative obtained from a sample. Examples of subsamples include: aliquots, filtrates, digestates, eluates, fractions, extracts, reaction products, supernatants, etc.
Superfund (federal and state)	The federal and state programs to investigate and clean up inactive hazardous waste sites.
Surface water	Includes fresh or saline waters from water bodies such as streams, canals, rivers, lakes, ponds, bays and estuaries (natural or manmade).

Surrogate spikes	Samples fortified with a compound having similar chemical characteristics to the analytes of interest, but which is not normally found in environmental samples. Known concentrations of these compounds are added to all samples in the set before sample preparation and subsequent analysis.
Surveillance (quality)	Continual or frequent monitoring and verification of the status of an entity and the analysis of records to ensure that specifications are being fulfilled.
System audit	A qualitative on-site review and evaluation of a laboratory or field operation quality assurance system and physical facilities utilized for sampling, sample processing, calibration and measurement or analysis.
Taxa Richness	The number of distinct species or taxa that are found in an assemblage, community, or sample.
Technical systems audit	A thorough, systematic, on-site qualitative audit of facilities, equipment, personnel, training, procedures, record keeping, data validation, data management, and reporting aspects of a system.
Total Error	The sum of the bias and the random errors.
Trip blank	Trip blanks are only used for volatile organic compounds (VOC) samples. The organization providing sample containers for VOC collection prepare blanks of VOC-free water. These blanks are transported to the site with the empty VOC sample containers and shipped to the analyzing laboratory in the same transport containers as the VOC samples. They remain unopened for the entire trip and are analyzed at the laboratory with the environmental VOC samples.
Uncertainty (of measurement)	Parameter, associated with the result of measurement, that characterizes the dispersion of the values that could reasonably be attributed to the measurement and.
Validation	An analyte- and sample-specific process that extends the evaluation of data beyond method, procedural, or contractual compliance (i.e., data verification) to determine the analytical quality of a specific data set.
Verification	The process of evaluating the completeness, correctness, and conformance/ compliance of a specific data set against the method, procedural, or contractual specifications.
Wastewater	Includes any influent or effluent associated with domestic or industrial waste treatment facilities.
Water Quality Standard	A legally established state regulation consisting of three parts: (1) designated uses, (2) criteria, and (3) antidegradation policy.
Wetland	Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.