

GLOSSARY

Absorption	The process by which substances in gaseous, liquid, or solid form are assimilated or taken up by other substances.
Acid	A substance with a pH less than 7.
Adsorption	The adherence of gas molecules, ions, or molecules in solution to the surface of solids.
Aeration Basin	A basin where oxygen is supplied by mechanical agitation or pneumatic means to enhance the breakdown of wastes held in suspension.
Aerobic	Pertaining to, taking place in, or caused by the presence of oxygen.
Alkaline	Having a pH greater than 7 or having a [OH ⁻] greater than 10 ⁻⁷ . Alkalinity is a measure of the capacity of water to neutralize acids and is also known as the buffering capacity. It is due primarily to the presence of naturally available bicarbonate, carbonate, and hydroxide ions.
Alluvium	General term for sediments of gravel, sand, silt, clay, or other particulate rock material deposited by flowing water, usually in the beds of rivers and streams, on a flood plain, on a delta, or at the base of a mountain.
Anaerobic	Pertaining to, taking place in, or caused by the absence of oxygen.
Aquatic	Living or growing in, or on, the water.
Aquifer	A geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to springs and wells.
Area-wide Water Quality Management Agency	A regional planning organization established to develop area-wide management plans for the control of water quality pollution. These plans are required to identify waste treatment facilities, specify construction priorities and develop a regulatory program.
Atmospheric deposition	The transfer of substances from the air to the surface of the Earth, either in wet form (rain, fog, snow, dew, frost, hail) or in dry form (gases, aerosols, particles).
Bacteria	A single-celled microscopic organisms.
Base flow	The sustained low flow of a stream, usually groundwater inflow to the stream channel.
Bedrock	A general term used for solid rock that underlies soils or other unconsolidated material.
Beneficial use (water quality)	A desirable use that water quality should support. Beneficial uses include drinking water supply, primary contact recreation (such as swimming), and aquatic life support.
Beneficial use (water right)	A desirable use that a water right should support. Examples include: irrigation, public water supply, private water supply etc.



Benthic Invertebrate	Insects, mollusks, crustaceans, worms, and other organisms without a backbone that live in, on, or near the bottom of lakes, streams, or oceans.
Bioaccumulation	The biological sequestering of a substance at a higher concentration than that at which it occurs in the surrounding environment or medium.
Biochemical	Refers to chemical processes that occur inside or are mediated by living organisms.
Biochemical Oxygen Demand	The amount of oxygen, expressed in milligrams per liter, that is removed from aquatic environments by the life processes of micro-organisms.
Biomass	The amount of living matter, in the form of organisms, present in a particular habitat, usually expressed as weight-per-unit area.
Biota	All living organisms of an area.
Best Management Practices (BMPs)	Techniques that are determined to be currently effective, practical means of preventing or reducing pollutants from point and nonpoint sources, in order to protect water quality. BMPs include, but are not limited to: structural and nonstructural controls, operation and maintenance procedures, and other practices.
Biosolids	The nutrient-rich solid organic material resulting from the treatment of domestic wastewater.
Brine	Water that contains more than 35,000 milligrams per liter of dissolved solids.
Bubble Diffuser	A system that uses perforated flexible membranes to produce small bubbles to provide oxygen mass transfer.
Channelization	The straightening and deepening of a stream channel to permit water to move faster or to drain a wet area for farming.
Climate	The sum total of the meteorological elements that characterize the average and extreme conditions of the atmosphere over a long period of time at any one place or region of the Earth's surface.
Cogenerate	Production of two useful forms of energy such as high-temperature heat and electricity from the same process.
Combined sewer overflow	A discharge of untreated sewage and stormwater to a stream when the capacity of a combined storm/sanitary sewer system is exceeded by storm runoff.
Community	All species living in a given area at a given time.
Concentration	The ratio of the quantity of any substance present in a sample of a given volume or a given weight compared to the volume or weight of the sample.
Confined aquifer	An aquifer that is completely filled with water under pressure and that is overlain by material that restricts the movement of water.

Confluence	The flowing together of two or more streams; the place where a tributary joins the main stream.
Conglomerate	A coarse-grained sedimentary rock composed of fragments larger than 2 millimeters in diameter.
Cubic foot per second (cfs)	The rate of water discharge representing a volume of 1 cubic foot passing a given point during 1 second, equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meter per second.
Degraded	The condition or quality of water that has been made unfit for some specified purpose.
Denitrification	A process by which oxidized forms of nitrogen such as nitrate (NO_3^-) are reduced to elemental or gaseous nitrogen: commonly brought about by the action of denitrifying bacteria and usually resulting in the escape of nitrogen to the air.
Detection limit	The concentration of a constituent or analyte below which a particular analytical method cannot determine, with a high degree of certainty, the concentration.
Diatoms	A single-celled, colonial, or filamentous algae with siliceous cell walls constructed of two overlapping parts.
Direct runoff	The runoff entering stream channels promptly after rainfall or snowmelt.
Discharge	The volume of fluid passing a point per unit of time, commonly expressed in cubic feet per second, million gallons per day, gallons per minute, or seconds per minute per day.
Discharge area	The area where subsurface water is discharged to the land surface, to surface water, or to the atmosphere.
Diversion	A turning aside or alteration of the natural course of a flow of water, normally considered physically to leave the natural channel. In some states, this can be a consumptive use direct from another stream, such as by livestock watering. In other states, a diversion must consist of such actions as taking water through a canal, pipe, or conduit.
Drainage area	The drainage area of a stream at a specified location is that area, measured in a horizontal plane, which is enclosed by a drainage divide.
Drought	A prolonged period of less-than-normal precipitation such that the lack of water causes a serious hydrologic imbalance.
Easement	An easement involves the right to use a parcel of land to benefit an adjacent parcel of land, such as to provide vehicular or pedestrian access to a road or sidewalk. Technically known as an easement appurtenant.
Ecosystem	A community of organisms considered together with the nonliving factors of its environment.
Effluent	Outflow from a particular source, such as a stream that flows from a lake or liquid waste that flows from a factory or sewage-treatment plant.



Environment	The sum of all conditions and influences affecting the life of organisms.
Ephemeral Stream	A stream, or part of a stream, that flows only in direct response to precipitation (either rain or snowmelt). These streams receive little or no water from springs or other groundwater systems. Ephemeral stream channels are usually above the water table.
Emulsify	The act of combining two or more liquids that do not typically mix together well, such as oil and water.
Enteric Viruses	A genus of viruses of the family Picornaviridae that preferentially inhabit the intestinal tract.
Erosion	The process whereby materials of the Earth's crust are loosened, dissolved, or worn away and simultaneously moved from one place to another.
Eutrophication	The process by which water becomes enriched with plant nutrients, most commonly phosphorus and nitrogen.
Evaporation	The process by which water is changed to gas or vapor; occurs directly from water surfaces and from the soil.
Event Mean Concentration (EMC)	Represents the concentration of a pollutant in a flow-weighted composite sample from the runoff event.
Conservation Easement	A conservation easement is a voluntary agreement between a private land owner and a municipal agency or qualified not-for-profit corporation to restrict the development, management, or use of land. That agency holds the interest and is empowered to enforce its restrictions against the current landowner and all subsequent owners of the land.
Fecal bacteria	A microscopic single-celled organisms (primarily fecal coliforms and fecal streptococci) found in the wastes of warm-blooded animals. Their presence in water is used to assess the sanitary quality of water for body-contact recreation or for consumption. Their presence indicates contamination by the wastes of warm-blooded animals and the possible presence of pathogenic (disease producing) organisms.
Fen	A peat-accumulating wetland that generally receives water from surface runoff and (or) seepage from mineral soils in addition to direct precipitation; generally alkaline; or slightly acid.
Flood	Any relatively high streamflow that overflows the natural or artificial banks of a stream. Note, this is not the same as an officially designated FEMA floodplain.
Flood attenuation	A weakening or reduction in the force or intensity of a flood.
Fluvial	Pertaining to a river or stream.
Freshwater	Water that contains less than 1,000 milligrams per liter of dissolved solids.
First Order Stream	Streams found in the origins of a watershed or headwaters.

Floodplain	A floodplain is the area on the sides of a stream, river, or watercourse that is subject to periodic flooding. The extent of the floodplain is dependent on soil type, topography, and water flow characteristics.
Flow-Weighted Composite Sample	A composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow.
GAP Analysis	The goal of the Gap Analysis Program (GAP) is to keep common species common by identifying those species and plant communities that are not adequately represented in existing conservation lands. Common species are those not currently threatened with extinction. By identifying their habitats, GAP Analysis gives land managers and policy makers the information they need to make better-informed decisions when identifying priority areas for conservation.
Graywater	Wastewater generated from domestic processes such as washing dishes, laundry and bathing.
Gaging station	A particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.
Geomorphology	The science that treats the general configuration of the Earth's surface; the description of landforms.
Green Field	Piece of undeveloped land, either currently used for agriculture or just left to nature.
Groundwater	In the broadest sense, all subsurface water; more commonly that part of the subsurface water in the saturated zone.
Habitat	The area or environment where an organism or ecological community normally lives or occurs.
Headwaters	The source and upper part of a stream and/or watershed.
Helminthes	A worm that is parasitic on the intestines of vertebrates especially round worms, tapeworms and flukes.
Herbaceous	With characteristics of an herb; a plant with no persistent woody stem above ground.
Hydraulics	The physical science and technology of the static and dynamic behavior of fluids.
Hydric soil	Soil that is wet long enough to periodically produce anaerobic conditions, thereby influencing the growth of plants.
Hydrograph	A graph showing variation of water elevation, velocity, streamflow, or other property of water with respect to time.
Hydrology	The science encompassing the behavior of water as it occurs in the atmosphere, on the surface of the ground, and underground.
Hydrologic cycle	The circulation of water from the sea, through the atmosphere, to the land, and thence back to the sea by overland and subterranean routes.



Hydrologic regime	The characteristic behavior and total quantity of water involved in a drainage basin.
Hydrological Modification	When human activities significantly change the hydrologic function (dynamics) or the attendant pollutant release regime of rivers and riverine systems, lakes and impoundments, and groundwater systems.
Impaired Waterbody	A waterbody that does not meet the criteria that support its designated use.
Impervious	Incapable of being penetrated by water; non-porous.
Improvement District	A geographic area designated to pay for infrastructure costs for a specific project.
Infiltration	The downward movement of water from the atmosphere into soil or porous rock.
Intermittent Stream	Streams that flow for a portion of the year or seasonally.
Irrigation	Controlled application of water to arable land to supply requirements of crops not satisfied by rainfall.
Irrigation return flow	The part of irrigation applied to the surface that is not consumed by evapotranspiration or uptake by plants and that migrates to an aquifer or surface-water body.
Lacustrine	Pertaining to, produced by, or formed in a lake.
Lacustrine wetland	A wetland within a lake or reservoir greater than 20 acres or within a lake or reservoir less than 20 acres if the water is greater than 2 meters deep in the deepest part of the basin; ocean-derived salinity is less than 0.5 part per thousand.
Leaching	The removal of materials in solution from soil or rock; also refers to movement of pesticides or nutrients from land surface to ground water.
Leadership in Energy and Environmental Design	A green building rating system that promotes a whole-building approach to sustainability. It recognizes performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.
Load	Material that is moved or carried by streams, reported as weight of material transported during a specified time period, such as tons per year.
Low Impact Development	Development that is intended to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source.
Macroinvertebrates	Animals large enough to be seen by the naked eye (macro) and lacking backbones (invertebrate).
Main stem	The principal trunk of a river or a stream.

Method detection limit	The minimum concentration of a substance that can be accurately identified and measured with a specific laboratory method.
Mitigation	Actions taken to avoid, reduce, or compensate for the effects of human-induced environmental damage.
Monofill	A series of unlined trenches dug into the ground, into which dewatered biosolids are placed and then covered with soil.
Montane	Of, pertaining to, or inhabiting cool upland slopes below the timber line; characterized by the dominance of evergreen trees.
Noncontact water recreation	Recreational activities, such as fishing or boating, that do not include direct contact with the water.
Nonpoint Source	A source of water pollution generally associated with rainfall runoff or snow melt. The quality and rate of runoff of NPS pollution is strongly dependent on the type of land cover and landuse from which the rainfall runoff flows. For example, rainfall runoff from forested lands will generally contain much less pollution and runoff more slowly than runoff from urban lands.
Nutrient	Any inorganic or organic compound needed to sustain plant life.
Organic	Containing carbon, but possibly also containing hydrogen, oxygen, chlorine, nitrogen, and other elements.
Overland flow	The flow of rainwater or snowmelt over the land surface toward stream channels.
Overlay Zone	Overlay zones (overlay districts) create a framework for conservation or development of special geographical areas. In a special resource overlay district, overlay provisions typically impose greater restrictions on the development of land, but only regarding those parcels whose development, as permitted under the zoning, may threaten the viability of the natural resource. In a development area overlay district, the provisions may impose restrictions as well, but also may provide zoning incentives and waivers to encourage certain types and styles of development. Overlay zone provisions are often complemented by the adoption of other innovative zoning techniques, such as floating zones, special permits, incentive zoning, cluster development and special site plan or subdivision regulations, to name a few.
Oxbow	A bow-shaped lake formed in an abandoned meander of a river.
Oxidation Ditch	A circular aeration basin is used, with rotary brush aerators that extend across the width of the ditch. Brush aerators aerate the wastewater, keep the microorganisms in suspension, and drive the wastewater around the circular channel.
Palustrine	Pertaining to a marsh or wetlands; wet or marsh habitats.
Palustrine wetlands	Freshwater wetlands including open water bodies of less than 20 acres in which water is less than 2 meters deep; includes marshes, wet meadows, fens, playas, potholes, pocosins, bogs, swamps, and shallow ponds; most wetlands are in the Palustrine system.
Part per million	Unit of concentration equal to one milligram per kilogram or one milligram per liter.



Pathogen	Biological agent that causes disease or illness to its host.
Perchlorate	A byproduct of solid rocket fuel propellant.
Perennial Stream	Streams that flow continuously throughout the year.
Periphyton	Micro-organisms that coat rocks, plants, and other surfaces on lake bottoms.
Permeability	The capacity of a rock for transmitting a fluid; a measure of the relative ease with which a porous medium can transmit a liquid.
pH	PH comes from potential of hydrogen and represents the logarithm of the reciprocal of hydrogen-ion concentration in gram atoms per liter. Essentially, pH provides a measure on a scale from 0 to 14 of the acidity or alkalinity of a solution. A pH of less than 7 indicates acidity and a pH of greater than 7 indicates alkalinity.
Phase I City	EPA requires NPDES permit coverage for stormwater discharges from medium and large municipal separate storm sewer systems (MS4s) located in incorporated places or counties with populations of 100,000 or more.
Phase II City	EPA requires NPDES permit coverage for stormwater discharges from certain regulated small municipal separate storm sewer systems (MS4s).
Photosynthesis	The process by which green plants use light to synthesize organic compounds from carbon dioxide and water. In the process oxygen and water are released. Increased levels of carbon dioxide can increase net photosynthesis in some plants. Plants create a very important reservoir for carbon dioxide.
Physiography	A description of the surface features of the Earth, with an emphasis on the origin of landforms.
Plankton	Floating, or weakly swimming organisms, at the mercy of the waves and currents. Animals of the group are called zooplankton and the plants are called phytoplankton.
Playa	A dry, flat area at the lowest part of an undrained desert basin in which water accumulates and is quickly evaporated; underlain by stratified clay, silt, or sand and commonly by soluble salts; term used in Southwestern United States.
Playa lake	A shallow, temporary lake in an arid or semiarid region, covering or occupying a playa in the wet season but drying up in summer; temporary lake that upon evaporation leaves or forms a playa.
Point source	Pollution originating at a discrete source and conveyed through a discrete system.
Pollutant	Any substance that, when present in a hydrologic system at sufficient concentration, degrades water quality in ways that are or could become harmful to human and/or ecological health or that impair the use of water for recreation, agriculture, industry, commerce, or domestic purposes.
Population	A collection of individuals of one species living in the same place at the same time.
Potable water	Water that is safe and palatable for human consumption.

Precipitation	Any or all forms of water particles that fall from the atmosphere, such as rain, snow, hail, and sleet. The act or process of producing a solid phase within a liquid medium.
Primary Clarifier	Sedimentation basin that precedes secondary wastewater treatment.
Reach	A continuous part of a stream between two specified points.
Re-aeration	The replenishment of oxygen in water from which oxygen has been removed.
Return flow	That part of irrigation water that is not consumed by evapotranspiration and that returns to its source or another body of water.
Riparian	Pertaining to or situated on the bank of a natural body of flowing water.
Riverine wetlands	Wetlands within river and stream channels; ocean-derived salinity is less than 0.5 part per thousand.
Runoff	Rainfall that does not evaporate or infiltrate the ground, but instead flows across land and into waterbodies.
Secondary Clarifier	A clarifier following a secondary treatment process, designed for gravity removal of suspended matter.
Second Order Stream	The confluence or joining of two first order streams forms second order stream.
Sediment	Particles, derived from rocks or biological materials, that have been transported by a fluid or other natural process, suspended or settled in water.
Silviculture	The cultivation of forest trees.
Sinuosity	The ratio of the channel length between two points on a channel to the straight-line distance between the same two points; a measure of meandering.
Sludge Drying Bed	A closed area consisting of sand or other porous material upon which sludge is dewatered by gravity drainage and evaporation.
Soil	The layer of material at the land surface that supports plant growth.
Species	Populations of organisms that may interbreed and produce fertile offspring having similar structure, habits, and functions.
Specific conductance	A measure of the ability of a liquid to conduct an electrical current.
Stakeholder	One who has a stake or interest in the outcome of the project. Also one who is affected by the project.
Stormwater	Waters resulting from precipitation on man-made and natural land surfaces in excess of surface infiltration rates and that lost to evaporation.



Stream order	A ranking of the relative sizes of streams within a watershed based on the nature of their tributaries. The smallest unbranched tributary is called first order, the stream receiving the tributary is called second order, and so on.
Streamflow	The discharge of water in a natural channel.
Stressor	Any physical, chemical, or biological entity that can induce an adverse response.
Substrate	The surface beneath a wetland, lake, or stream in which organisms grow or to which organisms are attached.
Surface Aerators	A bladed, rotating component of a water treatment plant; used to infuse air into the water.
Surface runoff	Runoff that travels over the land surface to the nearest stream channel.
Surface water	An open body of water such as a lake, river, or stream.
Suspended sediment	Sediment that is transported in suspension by a stream.
Terrestrial	Pertaining to, consisting of, or representing the Earth.
Topography	The general configuration of a land surface or any part of the Earth's surface, including its relief and the position of its natural and man-made features.
Total maximum Daily Load (TMDL)	The amount, or load, of a specific pollutant that a waterbody can assimilate and still meet water quality standards for its designated use. For impaired waters, the TMDL allocates allowable pollutant loads from specific sources (i.e. point sources, nonpoint sources, background or natural loads, a margin of safety, and sometimes an allocation for future growth).
Tributary	A river or stream flowing into a larger river, stream or lake.
Trickling Filter	Bed of gravel or plastic media over which pretreated wastewater is sprayed. Microorganisms attach themselves to the media in the bed and form a biological film over it. As the wastewater trickles through the media, the microorganisms consume and remove contaminants from the water.
Turbidity	The state, condition, or quality of opaqueness or reduced clarity of a fluid due to the presence of suspended matter.
Unconfined aquifer	An aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure.
Unconsolidated deposit	Deposit of loosely bound sediment that typically fills topographically low areas.
Upland	A general term for nonwetland; elevated land above low areas along streams or between hills; any elevated region from which rivers gather drainage.



Water imports	Artificial transfer (by pipes or canals) of freshwater to one region or subregion from another.
Water rights	Legal rights to the use of water.
Water Quality Standards	Standards that set the goals, pollution limits, and protection requirements for each waterbody. These standards are composed of designated (beneficial) uses, numeric and narrative criteria, and antidegradation policies and procedures.
Water table	The top water surface of an unconfined aquifer at atmospheric pressure.
Watershed	Land area that drains to a common waterway such as a stream, lake, or wetland.
Wetland function	A process or series of processes that take place within a wetland that are beneficial to the wetland itself, the surrounding ecosystems, and people.
Wetland	Ecosystems whose soil is saturated for long periods, seasonally or continuously, including marshes, swamps, and ephemeral ponds.