Glossary of Water and Wastewater Terms

Water Glossary	
Accumulation	Water that falls to the earth and collects both above and below the surface of the ground.
Acre-foot (AF)	The amount of water needed to cover one acre of land (one football field) one foot deep; 325,851 gallons.
Adhesion	The attraction of water molecules to other materials as a result of hydrogen bonding.
Aeration	The process in which water absorbs air in order to help oxidize the compounds that settle in the water so they can then be filtered out.
Aerobic	A condition in which atmospheric or dissolved oxygen is present.
Anaerobic	A condition in which atmospheric or dissolved oxygen is not present.
Aqueduct	A man-made canal or pipeline built to transport water.
Aquifer	Layers of rock, sand, and gravel beneath earth's surface where water collects; groundwater basin.
Aquitard	A layer of clay or compacted shale that prevents further water movement.
Artesian well water	Water from a deep-bored well that is supplied by upward movement under hydrostatic pressure in rocks or unconsolidated material beneath the earth's surface.
Brackish water	Water that is a mixture of fresh water and salt water. Brackish water generally has a dissolved mineral content of between 1 and 35 parts per thousand.
Buffer	A substance whose chemical makeup neutralizes acids or bases without a great change in pH.
Canal	A man-made waterway used in irrigation, shipping, and travel.
Cascade	Waterfall; anything that falls or flows in an abundance.
Chloramines	A combination of chlorine (Cl) and ammonia (NH_3) that is added to water to kill germs.
Chlorine (Cl)	A chemical disinfectant used to purify (clean) water.
Clean water	1.) Water that is clean enough to be used for a specific purpose, such as cooking, swimming, or drinking. 2.) Water that satisfies the requirements of certain regulations, such as the Federal Clean Water Act and Safe Drinking Water Act.
Cohesion	The attraction of water molecules to each other as a result of hydrogen bonding.
Condensation	A process by which water vapor (gas) changes to a liquid; opposite of evaporation.
Conservation	Saving or protecting any type of matter from loss or waste; using water wisely.
Consumptive use	The use of a resource that reduces the supply (e.g. removing water from a source such as a river or lake without returning an equal amount).
Contaminate	To make unfit for use; to pollute.
Course	The path water takes.
Cubic foot of water (cf)	The amount of water needed to fill a cube that is one foot on all sides; 7.48 gallons; Cf/s= 450 gal/min
Dam	A structure built to hold back a flow of water.
De-ionized	The process of removing ions from water through ion exchange. Also called demineralized water.
Density	The compactness or crowdedness of matter (e.g. water molecules) in a given area.

Desalination	The process of removing salt from seawater or brackish water.
Direct water use	Use of water that is apparent (e.g. washing, bathing, cooking).
Discharge	An outflow of water from a stream, pipe, ground water system, or watershed.
Disinfect	To destroy harmful microorganisms.
Disinfection	The killing of waterborne microorganisms in the water. Common forms of water disinfection include boiling and treating with chlorine, chloramine, or ozone.
Dissolve	A process whereby solid particles mix with a liquid, molecule by molecule, and appear to become part of that liquid.
Dissolved Oxygen – (DO)	A measure of the amount of oxygen dissolved in water. Healthy levels are essential for a thriving ecosystem and high-quality drinking water. Water receives oxygen from plant photosynthesis and turbulence (mixing with air).
Distilled water	Water that contains no minerals or impurities; purified water.
Diversionary water use	Removal of water from its natural location such as streams, lakes, aquifers, or other bodies of water for use elsewhere.
Drought	A prolonged period of little or no rainfall; often affects crop production and availability of water supply.
Drought tolerant	Capable of surviving for extended periods with little or no rainfall.
Ecosystem	A natural system where the health and well-being of any single element depends on the health and well-being of the other living and nonliving elements.
Electromagnetic forces	The fields created by positive and negative charges of atoms, which influence the formation of molecules and the attraction of repulsion (push or pull) of molecules to and from each other.
Elevation	The distance above sea level.
Epiphyte	A plant growing attached to another plant, but not parasitic; receives nourishment through air and rainfall.
Erosion	The washing away of soil from a river bank, mountain, or field.
Eutrophication	A set of physical, chemical, and biological changes caused by excess nutrients in the water. These nutrients stimulate plant growth and algal blooms that deplete the supply of dissolved oxygen and eventually kill aerobic life in water.
Evaporation	The process by which water (liquid) becomes a vapor (gas) usually though heat energy; opposite of condensation.
Evapotranspiration – (ET)	A combination of evaporation and transpiration of water into the atmosphere from living plants and soil.
Filter	A material that is used to remove a variety of particles from a mixture. In nature, it is the layers of soil, sand, and porous rock material through which the water percolates.
Filtered	The physical removal of particles though the use of a fine strainer or membrane. Filters are used extensively as either pretreatment or post treatment to water systems.
Filtration	Screening out the organisms and solids in water. The size of a filter's openings determines the size of the particles that are filtered out.
Filtration plant	A place where water is cleaned and treated to kill bacteria.
Flocculation	A step in water filtration in which alum is added to cause particles to clump together.
Fresh water	Water that is not salt water or brackish water. Technically, it has a dissolved solid level of less than one part per thousand. The term fresh water does not denote whether water is drinkable (potable), contaminated, or which specific

	minerals it contains.
Furrow irrigation	Water is put into furrows through the use of pumps, pipes, or siphons and gravity moves the water through the field.
Ground cover	A plant with a long growing, spreading habit, grown specifically to cover the ground.
Ground water	Water that collects in rock layers below the earth's surface. Groundwater can either flow to the surface through springs, or it can be tapped from the surface through wells. Groundwater tends to be clear and clean because it has been filtered through layers of sand and rock. However, an aquifer can become contaminated, and when it does, it is extremely hard to clean.
Ground water system	All the components of subsurface materials that relate to water, including aquifers (confined and unconfined), zones of saturation, and water tables.
H_20	The chemical constituents of pure water: two atoms of hydrogen and one atom of oxygen. Pure H_20 is seldom found in nature, and then only for a few moments because chemicals and gases dissolve readily in water.
Hardness	The total amount of calcium and magnesium dissolved in water.
Headwaters	The very beginning of a river or stream.
Heat capacity	The ability of a substance to hold heat energy.
Hydraulic mining	The use of large amounts of rushing water to separate valuable minerals from gravel and soil.
Hydroelectric plant	A power plant that produces electricity from the power of rushing water turning turbine-generators.
Hydrogen bonding	A type of chemical bond caused by electromagnetic forces, occurring when the positive pole of one molecule (e.g. water) is attracted to and forms a bond with a positive or negative pole of another molecule (e.g. another water molecule).
Hydrogeologist	A scientist who studies the occurrence, distribution, and movement of water below the surface of the earth, with a greater emphasis on geology.
Hydrograph	A graphic plot of changes in the flow of water or in the elevation of water level plotted against time.
Hydrology	The study of earth's waters, including water's properties, circulation, principles, and distribution both on the surface and underground.
Indirect water use	Uses of water that are not immediately apparent to the consumed.
Instream flow	The minimum amount of water required in a stream to maintain the existing aquatic resources, associated wildlife, and riparian habitat.
Instream water use	Uses of water within a stream's channel (e.g. by fish, and other aquatic life, or for recreation, navigation, and hydroelectric power production).
Irrigation	The controlled application of water to various lands (via pumps, pipes, hoses, sprinkles, etc.) to supplement that supplied by nature.
Inorganic Material	A compound that does not contain carbon atoms.
Landfill	An open area where trash is buried between layers of dirt.
Lock	A structure in a canal that allows boats to be raised or lowered. Locks have a gate that closes and "locks" water in. A boat enters the lock and the gate closes. To be lowered from a higher portion of a canal to a lower section, water is drained from the lock and the water level drops. When the water level in the lock drops to the canal level, the gate opens and the boat travels on. To raise a boat, water is pumped into the lock to raise the water level.
Microirrigation	Frequent application of small quantities of water as drops, tiny streams, or miniature spray through emitters or applicators placed along a water delivery

	line.
Microorganisms	Organisms so small they can only be seen through a microscope.
Microsystem irrigation	Method of precisely applying irrigation water to the immediate root zone of the target plant at very low rates.
Mineral	Water naturally or artificially impregnated with mineral salts or gases such as carbon dioxide.
Mulch	An organic and inorganic soil covering, used to maintain soil temperature and moisture and to discourage the growth of weeds.
Native plant	A plant occurring naturally in an area; not introduced by humans.
Natural environment	All living and nonliving things that occur naturally on the earth; not man made.
Navigable rivers	Rivers deep enough and wide enough to afford passage of ships.
Nonconsumptive	Instream use of water that does not reduce the supply; or removing water and returning it to the source without reducing the supply (e.g. navigation and fisheries).
Nutrients	Nitrogen and phosphate molecules in water that provide nourishment to algae and other plants.
Organic Material	Plant or animal matter containing carbon.
Osmosis	The diffusion of water through a membrane.
Overdraft	Pumping more water out of the ground than gets returned to the ground through rain, seepage from irrigation, and artificial replacement.
Ozonated	Water purified by adding ozone, a form of oxygen, formed by an electrical discharge.
Ozone	A gas derived from oxygen that is bubbled though water to kill germs.
Part per billion (ppb)	A similar relationship holds for a part per billion as exists for part per million. The earth has a population of roughly 7 billion people. Every group of seven people, therefore, represents one part per billion of the earth's population. **Why 1 Microgram per Liter (µg/l) Equals 1 Part Per Billion (ppb)** 1 liter of water = 1,000,000 milligrams 1 microgram = 1/1,000 of a milligram = 0.000,001 gram 1 microgram = 1/1,000,000,000 of a liter = 0.000,000,000,001 liter 1 microgram/L = 1 µg/L = 1ppb
Part per million (ppm)	A measurement of the concentration of substances (minerals, salts, pollutants). One part per million means there is one unit of a substance for every million total units. For example, if you were one person in a population of one million people, you would represent one part per million. In water, one part per million is often expressed as "one milligram per liter," or "1 mg/l." Why 1 Milligram per Liter (mg/L) Equals 1 Part Per Million (ppm) 1 liter = 1,000 grams 1 milligram = 1/1,000 of a gram = 0.001 gram 1 milligram = 1/1,000,000 of a liter = 0.000,000,001 liter 1 liter = 1,000 grams, so 1 mg/kg also equals 1 ppm
Percolates	The movement of water down through the various layers of soil, sand, and rock

	materials.
Percolation	Water soaking into the ground through the various layers of soil, sand, and rock materials.
Perennial	A plant whose life cycle last for three or more seasons.
Permeability	A material or membrane (e.g. porous rock, sediment, or soil) with the capability of allowing water to pass through.
pH	The measure of acidity (acid) and alkalinity (base). A low pH level indicates acidity. A high pH level indicates alkalinity. pH is measured on a scale of 0-14; water has a pH of 7 making it completely neutral.
Phase change	The change of a substance from its solid, liquid, or gaseous state to another state.
Photosynthesis	The process by which plants convert sunlight to energy.
Phreatophytes	Plants that send their roots into or below the capillary zone to use ground water.
Physical states	Gaseous, liquid, and solid states of a substance (e.g. as water moves from hot to cold, it changes from steam to liquid to ice).
Pipelines	Network of pipes that carry water underground to homes and businesses.
Pollutant	A substance that is dissolved or placed in the environment, such as pesticides, paints, oil, harmful bacteria, etc.
Pollution	The presence of harmful materials that could cause undesirable effects on the environment.
Porosity	Full of pours; the state of permeability by water, air, etc.
Potable water	Drinkable water; suitable, safe, or prepared for drinking.
Precipitation	A process whereby water in the atmosphere falls to the ground in the form of rain (liquid), sleet, hail, or snow(solid).
Pure water	Technically, pure water means H_20, or water without any other substances dissolved in it. Practically, however, it has come to mean water that is not contaminated, such as water that flows from a deep, unpolluted well.
Purified	Water which has all the minerals and chemicals removed by many treatment steps.
Rain	Water falling in drops condensed from vapor in the atmosphere.
Rapids	Places in rivers where the river drops dramatically and the water rushes wildly, often over large rocks.
Raw water	Water in its natural state before it has been treated and purified for potable use.
Recharge	Refers to water entering an underground aquifer through faults, fractures, or direct absorption.
Reclaimed water	Wastewater that has been cleaned so that it can be reused for most purposes except drinking.
Regulations	Laws that determine the amount of a substance that can be released into the environment or to which humans can be exposed legally.
Reservoir	A pond, lake, tank, or basin (natural or human made) where water is collected and stored.
Reverse osmosis	Pressurized water forced through filters and semi-permeable membranes which screen out a limited range of contaminates.
Riparian areas	Land areas directly influenced by a body of water; usually have visible vegetation or other physical characteristics showing the water influence (e.g. stream banks, lake borders, and marshes).

Salinization	The condition in which the salt content of soil accumulates over time to above the normal level; occurs in some parts of the world where water containing high salt concentration evaporates from fields irrigated with standing water.
Salt water	Water with a high dissolved mineral content. Ocean water has a dissolved salt content of approximately 25 parts per thousand. Salty bodies of water with high rates of evaporation (Salton Sea, Mono Lake, the Great Salt Lake, and the Dead sea) have even higher salt concentrations.
Sedimentation	The process of particles in water settling to the bottom of the tank.
Sluice	A human-made channel with a gate used to stop or regulate water flow; floodgate.
Snowpack	A field of naturally packed snow that ordinarily melts in early summer months.
Soft water	Water with low levels of calcium and magnesium. Some soft water is naturally occurring, but most soft water used in this country is created from water softeners. Water softeners exchange calcium and magnesium for salt.
Soil pH	pH stands for potential hydrogen and is a measure of acidity (acid) and alkalinity (base) in soils.
Solution	A mixture in which a substance, solid, liquid, or gas is dissolved.
Solvent	A liquid that dissolves other substances.
Source protection	The prevention of pollution in a watershed, thus reducing the need for expensive treatment to remove contaminants.
Spa	Water from a mineral spring.
Sparkling	Water from any source that is made bubbly by adding carbon dioxide (a gas) from an outside source.
Spring	Water with no minerals added or removed.
Sprinkle irrigation	Method of irrigation in which water is sprayed, or sprinkled through the air to the ground surface.
Stream distilled	The process of heating water and condensing the resulting vapor to produce a more pure substance.
Streamflow	The discharge of water from a river.
Subirrigation	The application of irrigation water below the ground surface by raising the water table to within or near the root zone.
Surface irrigation	A broad class of irrigation methods in which water is distributed over the soil surface by gravity flow.
Surface runoff	Water flowing along the ground into rivers, lakes, and oceans.
Surface tension	The strong, elastic-like quality existing in the surface of a liquid due to intermolecular forces between surface molecules.
Surface water	Water that exists above ground, including oceans, lakes, rivers, and reservoirs. Surface water may be fresh, salty, or brackish.
Tailwater	Applied irrigation water that runs off the lower end of a field; Tailwater is measured as the average depth of runoff water, expressed in inches or feet.
Topography	A description, model, or drawing of mountains, valleys, hills, rivers, roads, bridges, and other things found on the surface of a place.
Total dissolved solids (TDS)	The total quantity of minerals dissolved in water.
Toxic	Poisonous; harmful to living organisms.
Transpiration	The process by which water absorbed by plants (usually through the roots) is evaporated into the atmosphere from the plant surface (principally from the leaves); evaporation through the leaves of plants.

Glossary of Water and Wastewater Terms

Tributaries	Rivers that feed into larger rivers.
Trihalomethanes (THMs)	A compound that is formed when chlorine is added to water containing organic material.
Trough	A long shallow container or channel for carrying water.
Turbidity	The measure of water's cloudiness caused by tiny particles.
Wastewater	Water that has waste material in it; it goes down the drains of homes and businesses.
Wastewater treatment	Any of the mechanical or chemical processes used to modify the quality of wastewater in order to make it more compatible or acceptable to humans and the environment.
Water allocation	A hydrologic system in which there are multiple uses or demands for water; the process of measuring a specific amount of water devoted to a given purpose.
Water cycle	A process whereby the earth's water is moved by the energy from the sun and the force of gravity though a cycle from oceans to atmosphere (evaporation), atmosphere to land (condensation and precipitation), and land back to the oceans and other water sources (accumulation).
Water diversion	The transfer of water from a stream, lake, and/or aquifer by a conduit whether by canal, pipe, or well to another watercourse or for land application.
Water reclamation	Treating wastewater so it is suitable for beneficial reuse.
Water rights	A legal right to use a specified amount of water for beneficial purposes.
Watershed	The land area from which surface runoff drains into a stream channel, lake, reservoir, or other body of water; also called a drainage basin (e.g. a drop of water falling into the Los Angeles River watershed will drain to the Los Angeles River).
Water table	The level below the earth's surface at which the ground becomes saturated with water.
Waterlogging	Occurs when excess water accumulates in the root zone preventing plants from obtaining adequate oxygen.
Well	A hole in the ground from which ground water may be pumped to the surface.
Xeriscape	Landscaping that is susceptible to drought; doesn't require a lot of water.
Xerophyte	A plant adapted to living under conditions of a drought.

References:
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