

GLOSSARY

The terms in this glossary were compiled from numerous sources. Some definitions have been modified and may not be the only valid ones for these terms.

Algae - Chlorophyll-bearing nonvascular, primarily aquatic species that have no true roots, stems, or leaves; most algae are microscopic, but some species can be as large as vascular plants.

Ammonia - A compound of nitrogen and hydrogen (NH₃) that is a common by-product of animal waste. Ammonia readily converts to nitrate in soils and streams.

Aquifer - A water-bearing layer of soil, sand, gravel, or rock that will yield usable quantities of water to a well.

Bed sediment - The material that temporarily is stationary in the bottom of a stream or other watercourse.

Concentration - The amount or mass of a substance present in a given volume or mass of sample. Usually expressed as microgram per liter (water sample) or micrograms per kilogram (sediment or tissue sample).

Constituent - A chemical or biological substance in water, sediment, or biota that can be measured by an analytical method.

Cubic foot per second (ft³/s or cfs) - 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 0.2832 cubic meter per second.

Denitrification - A process by which oxidized forms of nitrogen such as nitrate (NO₃⁻) are reduced to form nitrites, nitrous oxides, ammonia, or free nitrogen; commonly brought about by the action of denitrifying bacteria and usually resulting in the escape of nitrogen to the air.

Discharge - Rate of fluid flow passing a given point at a given moment in time, expressed as volume per unit of time.

Dissolved solids - Amount of minerals, such as salt, that are dissolved in water; amount of dissolved solids is a indicator of salinity or hardness.

Drinking-water standard or guideline - A threshold concentration in a public drinking-water supply, designed to protect human health. As defined here, standards are U.S. Environmental Protection Agency regulations that specify the maximum contamination levels for public water systems required to protect the public welfare; guidelines have no regulatory status and are issued in an advisory capacity.

Ecological studies - Studies of biological communities and habitat characteristics to evaluate the effects of physical and chemical characteristics of water and hydrologic conditions on aquatic biota and to determine how biological and habitat characteristics differ among environmental settings in the NAWQA Study Units.

Ecoregion - An area of similar climate, landform, soil, potential natural vegetation, hydrology, or other ecologically relevant variables.

Ecosystem - The interacting populations of plants, animals, and micro-organisms occupying an area, plus their physical environment.

Eutrophication - The process by which water becomes enriched with plant nutrients, most commonly phosphorus and nitrogen.

Fungicide - A substance or mixture of substances intended to destroy or inhibit the growth of fungi.

Ground water - In general, any water that exists beneath the land surface, but more commonly applied to water in fully saturated soils and geologic formations.

Habitat - The part of the physical environment where plants and animals live.

Health advisory - Nonregulatory levels of contaminants in drinking water that may be used as guidance in the absence of regulatory limits. They consist of estimates of concentrations that would result in no known or anticipated health effects (for carcinogens, a specified cancer risk) determined for a child or for an adult for various exposure periods.

Herbicide - A chemical or other agent applied for the purpose of killing undesirable plants. *See also* Pesticide.

Index of Biotic Integrity (IBI) - An aggregated number, or index, based on several attributes or metrics of a fish community that provides an assessment of biological conditions.

Insecticide - A substance or mixture of substances intended to destroy or repel insects.

Load - General term that refers to a material or constituent in solution, suspension, or in transport; usually expressed in terms of mass or volume.

Maximum contaminant level (MCL) - Maximum permissible level of a contaminant in water that is delivered to any user of a public water system. MCLs are enforceable standards established by the U.S. Environmental Protection Agency.

Mean - The average of a set of observations, unless otherwise specified.

Median - The middle or central value in a distribution of data ranked in order of magnitude. The median is also known as the 50th percentile.

Method detection limit - The minimum concentration of a substance that can be accurately identified and measured with present laboratory technologies.

Micrograms per liter (µg/L) - A unit expressing the concentration of constituents in solution as weight (micrograms) of solute per unit volume (liter) of water; equivalent to one part per billion in most streamwater and ground water. One thousand micrograms per liter equals 1 mg/L.

Milligrams per liter (mg/L) - A unit expressing the concentration of chemical constituents in solution as weight (milligrams) of solute per unit volume (liter) of water; equivalent to one part per million in most streamwater and ground water. One thousand micrograms per liter equals 1 mg/L.

Nitrate - An ion consisting of nitrogen and oxygen (NO_3^-). Nitrate is a plant nutrient and is very mobile in soils.

Nonpoint source - A pollution source that cannot be defined as originating from discrete points such as pipe discharge. Areas of fertilizer and pesticide applications, atmospheric deposition, manure, and natural inputs from plants and trees are types of non-point source pollution.

Nutrient - Element or compound essential for animal and plant growth. Common nutrients in fertilizer include nitrogen, phosphorus, and potassium.

Organochlorine insecticide - A class of organic insecticides containing a high percentage of chlorine. Includes dichlorodiphenylethanes (such as DDT), chlorinated cyclodienes (such as chlordane), and chlorinated benzenes (such as lindane). Most organochlorine insecticides were banned because of their carcinogenicity, tendency to bioaccumulate, and toxicity to wildlife.

Outwash - Soil material washed down a hillside by glacial meltwater and deposited upon more gently sloping land.

Part per million (ppm) - Unit of concentration equal to one milligram per kilogram or one milligram per liter.

Pesticide - A chemical applied to crops, rights-of-way, lawns or residences to control weeds, insects, fungi, nematodes, rodents or other "pests."

Phosphorus - A nutrient essential for growth that can play a key role in stimulating aquatic growth in lakes and streams.

Picocurie (pCi) - One trillionth (10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 2.22 disintegrations per minute (dpm) or 0.037 dps.

Polychlorinated biphenyls (PCBs) - A mixture of chlorinated derivatives of biphenyl, marketed under the trade name Aroclor with a number designating the chlorine content (such as Aroclor 1260). PCBs were used in transformers and capacitors for insulating purposes and in gas pipeline systems as a lubricant. Further sale for new use was banned by law in 1979.

Polycyclic aromatic hydrocarbon (PAH) - A class of organic compounds with a fused-ring aromatic structure. PAHs result from incomplete combustion of organic carbon (including wood), municipal solid waste, and fossil fuels, as well as from natural or anthropogenic introduction of unburned coal and oil. PAHs include benzo(a)pyrene, fluoranthene, and pyrene.

Radon - A naturally occurring, colorless, odorless, radioactive gas formed by the disintegration of the element radium; damaging to human lungs when inhaled.

Recharge - Water that infiltrates the ground and reaches the saturated zone.

Riparian - Areas adjacent to rivers and streams with a high density, diversity, and productivity of plant and animal species relative to nearby uplands.

Secondary maximum contaminant level (SMCL) - The maximum contamination level in public water systems that, in the judgment of the U.S. Environmental Protection Agency (USEPA), are required to protect the public welfare. SMCLs are secondary (non-enforceable) drinking water regulations established by the USEPA for contaminants that may adversely affect the odor or appearance of such water.

Semivolatile organic compound (SVOC) - Operationally defined as a group of synthetic organic compounds that are solvent-extractable and can be determined by gas chromatography/mass spectrometry. SVOCs include phenols, phthalates, and polycyclic aromatic hydrocarbons (PAHs).

Shallow ground water - In this report, refers to water (generally, aged less than 10 years) that is within 10 feet below the water table.

Surficial aquifer - An aquifer located within close proximity to the land surface (as compared to locally deep ground-water aquifers) in which recently recharged ground water is commonly susceptible to contamination from activities on the land surface.

Suspended sediment - Particles of rock, sand, soil, and organic detritus carried in suspension in the water column, in contrast to sediment that moves on or near the streambed.

Trace element - An element found in only minor amounts (concentrations less than 1.0 milligram per liter) in water or sediment; includes arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc.

Volatile organic compounds (VOCs) - Organic chemicals that have a high vapor pressure relative to their water solubility. VOCs include components of gasoline, fuel oils, and lubricants, as well as organic solvents, fumigants, some inert ingredients in pesticides, and some by-products of chlorine disinfection.

Water-quality criteria - Specific levels of water quality which, if reached, are expected to render a body of water unsuitable for its designated use. Commonly refers to water-quality criteria established by the U.S. Environmental Protection Agency. Water-quality criteria are based on specific levels of pollutants that would make the water harmful if used for drinking, swimming, farming, fish production, or industrial processes.

Water table - The point below the land surface where ground water is first encountered and below which the earth is saturated. Depth to the water table varies widely across the country.

Wetlands - Ecosystems whose soil is saturated for long periods seasonally or continuously, including marshes, swamps, and ephemeral ponds.

Yield - The mass of material or constituent transported by a river in a specified period of time divided by the drainage area of the river basin.