

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 (NH<sub>3</sub>) that is a common by-product of animal waste. Ammonia readily converts to nitrate in soils and streams.
- Anomalies** - As related to fish, externally visible skin or subcutaneous disorders, including deformities, eroded fins, lesions, and tumors.
- Aquifer** - A water-bearing layer of soil, sand, gravel, or rock that will yield usable quantities of water to wells.
- Bank** - The sloping ground that borders a stream and confines the water in the natural channel when the water level, or flow, is normal.
- Basic Fixed sites** - Sites on streams at which streamflow is measured and samples are collected for temperature, salinity, suspended sediment, major ions and trace elements, nutrients, and organic carbon to assess the broad-scale spatial and temporal character and transport of inorganic constituents of stream water in relation to hydrologic conditions and environmental settings.
- Bed sediment** - The material that temporarily is stationary in the bottom of a stream or other watercourse.
- Bioaccumulation** - The biological sequestering of a substance at a higher concentration than that at which it occurs in the surrounding environment or medium. Also, the process whereby a substance enters organisms through the gills, epithelial tissues, dietary, or other sources.
- Biochemical oxygen demand (BOD)** - The amount of oxygen, measured in milligrams per liter, that is removed from aquatic environments by the life processes of microorganisms.
- Bioconcentration** - A process by which there is a net accumulation of a chemical directly from water into aquatic organisms resulting from simultaneous uptake (for example, by gill or epithelial tissue) and elimination.
- Biota** - Living organisms.
- Channelization** - Modification of a stream, typically by straightening the channel, to provide more uniform flow; often done for flood control or for improved agricultural drainage or irrigation.
- Chlordane** - Octachloro-4,7-methanotetrahydroindane. An organochlorine insecticide no longer registered for use in the United States. Technical chlordane is a mixture in which the primary components are *cis*- and *trans*-chlordane, *cis*- and *trans*-nonachlor, and heptachlor.
- Concentration** - The amount or weight of a substance present in a given volume or weight of sample. Usually expressed as micrograms 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 analytical methods.
- Contamination** - Degradation of water quality compared to original or natural conditions due to human activity.
- Cubic foot per second** - The rate of water discharge representing a volume of 1 cubic foot passing a given point during 1 second, approximately equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meter per second.
- DDT** - Dichlorodiphenyltrichloroethane. An organochlorine insecticide no longer registered for use in the United States.
- Detection limit** - The concentration below which a particular analytical method cannot determine, with a high degree of certainty, a concentration.
- Dieldrin** - An organochlorine insecticide no longer registered for use in the United States. Also a degradation product of the insecticide aldrin.
- Discharge** - Rate of fluid flow passing a given point at a given moment in time, expressed as volume per unit of time.
- Dissolved constituent** - Operationally defined as a constituent that passes through a 0.45-micrometer filter.
- Ecoregion** - An area of similar climate, landform, soil, potential natural vegetation, hydrology, or other ecologically relevant variables.
- 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.
- Environmental setting** - Land area characterized by a unique combination of natural and human-related factors, such as row-crop cultivation or glacial-till soils.
- Eutrophication** - The process by which water becomes enriched with plant nutrients, most commonly nitrogen and phosphorus.
- Fish community** - A group of populations of fish that interact in a common area.
- Fixed sites** - NAWQA's most comprehensive monitoring sites. *See* Basic Fixed sites and Intensive Fixed sites.
- Flow-path study** - Network of clustered wells located along a flow path extending from a recharge zone to a discharge zone, preferably a shallow stream. The studies examine the relations of land-use practices, ground-water flow, and contaminant occurrence and transport. The studies are located in the area of one of the land-use studies.

## GLOSSARY

- Fumigant** - A substance or mixture of substances that produce gas, vapor, fume, or smoke intended to destroy insects, bacteria, or rodents.
- Gaging station** - A particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.
- Habitat** - The part of the physical environment where plants and animals live.
- Health advisory (HA)** - Nonregulatory levels of contaminants in drinking water that can 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.
- Hydrograph** - Graph showing variation of water elevation, velocity, streamflow, or other property of water with respect to time.
- Indicator sites** - Stream sampling sites located at outlets of drainage basins with relatively homogeneous land-use and physiographic conditions; most indicator-site basins have drainage areas ranging from 20 to 200 square miles.
- Insecticide** - A substance or mixture of substances intended to destroy or repel insects.
- Integrator or mixed-use site** - Stream sampling site located at an outlet of a drainage basin that contains multiple environmental settings. Most integrator sites are on major streams with relatively large drainage areas.
- Intensive Fixed sites** - Basic Fixed sites with increased sampling frequency during selected seasonal periods and analysis of dissolved pesticides for 1 year. Most NAWQA Study Units have 1 to 2 integrator Intensive Fixed sites and 1 to 4 indicator Intensive Fixed sites.
- Invertebrate** - An animal with no backbone or spinal column.
- Land-use study** - A network of existing shallow wells in an area with a relatively uniform land use. These studies are a part of the Study Unit Survey and have the goal of relating the quality of shallow ground water to land use. *See also* Study Unit Survey.
- Main stem** - The principal course of a river or stream.
- Major ions** - Constituents commonly present in concentrations exceeding 1.0 milligram per liter. Major cations generally are calcium, magnesium, sodium, and potassium; major anions are sulfate, chloride, fluoride, nitrate, and those contributing to alkalinity, generally assumed to be bicarbonate and carbonate.
- 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.
- Mean discharge** - The arithmetic mean of individual daily mean discharges during a specific period, usually daily, monthly, or annually.
- Median** - The middle or central value in a distribution of data ranked in order of magnitude. The median is also the 50th percentile.
- Micrograms per liter** - A unit expressing the concentration of constituents in solution as weight (micrograms) of solute per unit volume (liter) of water; equivalent to 1 part per billion in most stream water and ground water. One thousand micrograms per liter equals 1 milligram per liter.
- Milligrams per liter** - A unit expressing the concentration of chemical constituents in solution as weight (milligrams) of solute per unit volume (liter) of water; equivalent to 1 part per million in most stream water and ground water. One thousand micrograms per liter equals 1 milligram per liter.
- Nitrate** - An ion consisting of nitrogen and oxygen ( $\text{NO}_3^-$ ). 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 nonpoint-source pollution.
- Nutrient** - Element or compound essential for animal and plant growth. Common nutrients in fertilizer include nitrogen, phosphorus, and potassium.
- Organochlorine compound** - Synthetic organic compounds containing chlorine. As generally used, term refers to compounds containing mostly or exclusively carbon, hydrogen, and chlorine. Examples include organochlorine insecticides, polychlorinated biphenyls, and some solvents containing chlorine.
- Organochlorine insecticide** - A class of organic insecticides containing a large percentage of chlorine. Includes dichlorodiphenylethanes (such as DDT), chlorinated cyclodienes (such as chlordane), and chlorinated benzenes (such as lindane). Most organochlorine insecticides are banned because of their carcinogenicity, tendency to bioaccumulate, and toxicity to wildlife.
- Pesticide** - A chemical applied to crops, rights of way, lawns, or residences to control weeds, insects, fungi, nematodes, rodents or other "pests."

- pH** - The logarithm of the reciprocal of the hydrogen ion concentration (activity) of a solution; a measure of the acidity (pH less than 7) or alkalinity (pH greater than 7) of a solution; a pH of 7 is neutral.
- Phosphorus** - A nutrient essential for growth that can be important in stimulating aquatic growth in lakes and streams.
- Picocurie** - One trillionth ( $10^{-12}$ ) of the amount of radioactivity represented by a curie. A curie is the amount of radioactivity that yields  $3.7 \times 10^{10}$  radioactive disintegrations per second. A picocurie yields 2.22 disintegrations per minute.
- Point source** - A source at a discrete location such as a discharge pipe, drainage ditch, tunnel, well, concentrated livestock operation, or floating craft.
- Polychlorinated biphenyl (PCB)** - 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 insulation 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 uncombusted coal and oil. PAHs include benzo(a)pyrene, fluoranthene, and pyrene.
- Precipitation** - Any or all forms of water particles that fall from the atmosphere, such as rain, snow, hail, and sleet.
- Recharge** - Water that infiltrates the ground and reaches the saturated zone.
- Reference site** - A NAWQA sampling site selected for its relatively undisturbed conditions.
- Riparian zone** - Pertaining to or located on the bank of a body of water, especially a stream.
- Runoff** - Excess rainwater or snowmelt that is transported to streams by overland flow, tile drains, or ground-water flow.
- Salinity** - In this report, refers to the concentration of dissolved solids in water.
- Secondary maximum contaminant level (SMCL)** - The maximum contamination level in public water systems that, in the judgment of the U.S. Environmental Protection Agency (EPA), are required to protect the public welfare. SMCLs are secondary (nonenforceable) drinking-water regulations established by the EPA for contaminants that may adversely affect the odor or appearance of such water.
- Sediment** - Particles, derived from rocks or biological materials, that have been transported by a fluid or other natural process, suspended or settled in 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 PAHs.
- Streamflow** - A type of channel flow, applied to that part of surface runoff in a stream whether or not it is affected by diversion or regulation.
- Study Unit** - A major hydrologic system of the United States in which NAWQA studies are focused. Study Units are geographically defined by a combination of ground- and surface-water features and generally encompass more than 4,000 square miles of land area.
- Study Unit Survey** - Broad assessment of the water-quality conditions of the major aquifer systems of each Study Unit. The Study Unit Survey relies primarily on sampling existing wells and, wherever possible, on existing data collected by other agencies and programs. Typically, 20 to 30 wells are sampled in each of 3 to 5 aquifer subunits.
- Survey** - Sampling of any number of sites during a given hydrologic condition.
- Synoptic sites** - Sites sampled during a short-term investigation of specific water-quality conditions during selected seasonal or hydrologic conditions to provide improved spatial resolution for critical water-quality conditions.
- Tolerant species** - Those species that are adaptable to (tolerant of) human effects on the environment.
- Total concentration** - Refers to the concentration of a constituent regardless of its form (dissolved or bound) in a sample.
- 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 compound (VOC)** - Organic chemical that has a high vapor pressure relative to its 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.