

GLOSSARY

Ambient water quality: Natural concentration of water quality constituents prior to mixing of either point or nonpoint source load of contaminants. Reference ambient concentration is used to indicate the concentration of a chemical that will not cause adverse impact to human health.

Aquifer: An underground geological formation or group of formations, containing water. Aquifers are sources of groundwater for wells and springs.

Benthic: Refers to material, especially sediment, at the bottom of an aquatic ecosystem. It can be used to describe the organisms that live on, or in, the bottom of a water body.

Best management practices (BMPs): Methods, measures or practices that are determined to be reasonable and cost-effective means for a land owner to meet certain pollution control needs (generally nonpoint source). BMPs include structural and nonstructural controls and operation and maintenance procedures

Clarity: A measure of the amount of particles suspended in water; determined by using a secchi disk or turbidity test.

Clean Water Act (CWA): The Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) contains a number of provisions to restore and maintain the quality of the nation's water resources. One of these provisions is section 303(d), which establishes the Total Maximum Daily Load (TMDL) program.

Coastal zone: Lands and waters adjacent to the coast that exert an influence on the uses of the sea and its ecology, or whose uses and ecology are affected by the sea.

Coliform: A group of related bacteria whose presence in drinking water may indicate contamination by disease-causing microorganisms.

Combined sewers: Pipes that carry both stormwater and household sewage to sewage treatment plants. During a big storm, they may overflow and dump untreated sewage into streams, lakes and coastal waters. These overflows are called combined sewer overflows or CSOs.

Community Water System: A public water system that supplies drinking water to 25 or more of the same people year-round in their residences.

Concentration: Amount of a substance or material in a given unit volume of solution; usually measured in milligrams per liter (mg/L) or parts per million (ppm).

Conveyance: A means of transport or flow; conveyance systems can be natural (streams, rivers and wetlands) or constructed (downspouts, pipes and channels).

Designated use: The desired use a water body should support (such as fishing or swimming).

Discharge permits (NPDES): A permit issued by the U.S. EPA or a state regulatory agency that sets specific limits on the type and amount of pollutants that a municipality or industry can discharge to a receiving water; it also includes a compliance schedule for achieving those limits. It is called the NPDES because the permit process was

established under the National Pollutant Discharge Elimination System, under provisions of the federal Clean Water Act.

Dissolved oxygen (DO): The amount of oxygen dissolved in water. The amount is usually expressed in parts per million (ppm) or milligrams per liter (mg/L).

Ecosystem: An interactive system that includes the organisms of a natural community association together with their abiotic physical, chemical and geochemical environment.

Effluent: Municipal sewage or industrial liquid waste (untreated, partially treated or completely treated) that flows out of a treatment plant, septic system, pipe, etc.

Estuary: The area where the fresh water of a river meets and mixes with the salt water of the ocean.

Ground water: The supply of fresh water that is found under the earth's surface in underground rock formations or soil.

Habitat: The place where a plant or animal lives.

Hydrology: The study of the distribution, properties and effects of water on the earth's surface, in the soil and underlying rocks, and in the atmosphere.

Impervious surface: A paved or other hard surface that does not allow water to penetrate.

Infiltration: Absorption or passage of liquid through a filtering medium (such as soil)

Invasive species: A plant or animal that is non-native or alien to the ecosystem and whose introduction causes harm to environmental and human health.

Loading, Load, Loading rate: The total amount of material (pollutants) entering the system from one or multiple sources; measured as a rate in weight per unit time.

Microbes (microorganisms): Tiny living organisms that can only be seen with the aid of a microscope. Some microbes can cause acute health problems when consumed (see pathogens).

Mitigation: Actions taken to avoid, reduce or compensate for the effects of environmental damage. Among the broad spectrum of possible actions are those that restore, enhance, create or replace damaged ecosystems.

Monitoring: Periodic or continuous surveillance or testing to determine the level of compliance with statutory requirements and/or pollutant levels in various media or in humans, plants and animals.

National Pollutant Discharge Elimination System (NPDES): The national program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act.

National Water Quality Inventory: A report EPA prepares every two years summarizing information from states about the quality of the nation's waters.

Nitrogen: A nutrient that is essential to plants and animals.

Nonpoint source: Pollution that is not released through pipes but rather originates from multiple sources over a relatively large area. Nonpoint sources can be divided into source activities related to either land or water use including failing septic tanks, improper animal-keeping practices, forest practices, and urban and rural runoff.

Nutrients: Substances necessary for the growth of all living things, such as nitrogen, carbon, potassium and phosphorus. Too many nutrients in water bodies can contribute to algal blooms, a sudden, excessive growth of algae in a water body.

Organic matter: The organic fraction that includes plant and animal residue at various stages of decomposition, cells and tissues of soil organisms, and substance synthesized by the soil population. Commonly determined as the amount of organic material contained in a soil or water sample.

Outfall: The point where water flows from a conduit, stream or drain.

Particulates: Small pieces of material (such as sand) floating in the water.

Permeability: A measure of the ability of soil to transmit water.

Permit: An authorization, license, or equivalent control document issued by EPA or an approved Federal, state, or local agency to implement the requirements of an environmental regulation; e.g., a permit to operate a wastewater treatment plant or to operate a facility that may generate harmful emissions.

Pervious surface: A surface which allows water to soak into it.

pH: A symbol for expressing the degree to which a solution is acidic or basic. It is based on a scale from 0 (very acid) to 14 (very basic). Pure water has a pH of 7.

Phosphorus: A nutrient that is essential to plants and animals.

Photosynthesis: The conversion of light energy to chemical energy. At night, this process reverses: plants and algae suck oxygen out of the water.

Point source: Pollutant loads discharged at a specific location from pipes, outfalls, and conveyance channels from either municipal wastewater treatment plants or industrial waste treatment facilities. Point sources can also include pollutant loads contributed by tributaries to the main receiving water stream or river.

Pollutant: Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. (CWA Section 502(6)).

Pollution: Generally, the presence of matter or energy whose nature, location or quantity produces undesired environmental effects. Under the Clean Water Act, for example, the term is defined as the man-made or man-induced alteration of the physical, biological, chemical and radiological integrity of water.

Primacy: Primary enforcement authority, or the authority to implement a program (e.g., NPDES).

Public Water System (PWS): Any water system that provides water to at least 15 service connections or 25 people for at least 60 days annually. There are more than 170,000 PWSs providing water from

wells, rivers, and other sources to about 250 million Americans. The others drink water from private wells. There are differing standards for PWSs of different sizes and types.

Receiving waters: Creeks, streams, rivers, lakes, estuaries, ground-water formations or other bodies of water into which surface water and/or treated or untreated waste are discharged, either naturally or in man-made systems.

Riparian areas: Areas bordering streams, lakes, rivers and other watercourses. These areas have high water tables and support plants that require saturated soils during all or part of the year. Riparian areas include both wetland and upland zones.

Runoff: Water from rain, snowmelt or irrigation that flows over the ground and returns to streams. It can collect pollutants from air or land and carry them to streams and other water bodies.

Safe Drinking Water Act (SDWA): The main federal law that ensures the quality of Americans' drinking water.

Sample: The water that is analyzed for the presence of US EPA-regulated drinking water contaminants. Depending on the regulation, US EPA requires water systems and states to take samples from source water, from water leaving the treatment facility, or from the taps of selected consumers.

Sanitary sewer overflows: Properly designed, operated, and maintained sanitary sewer systems are meant to collect and transport all of the sewage that flows into them to a publicly owned treatment works (POTW). However, occasional unintentional discharges of raw sewage from municipal sanitary sewers occur in almost every system. These types of discharges are called sanitary sewer overflows.

Sanitary waste: Liquid or solid wastes originating solely from humans and human activities, such as wastes collected from toilets, showers, wash basins, sinks used for cleaning domestic areas, sinks used for food preparation, clothes washing operations, and sinks or washing machines where food and beverage serving dishes, glasses and utensils are cleaned.

Secchi disk: A black-and-white disk used to measure the clarity of water. The disk is lowered into the water until it cannot be seen and then the depth of the disk is measured. Septic system: a system that treats and disposes of household wastewater under the ground.

Sediment: Particulate organic and inorganic matter that accumulates in a loose, unconsolidated form on the bottom of natural waters.

Sewer: A channel or conduit that carries wastewater and stormwater runoff from the source to a treatment plant or receiving stream. "Sanitary" sewers carry household, industrial, and commercial waste. "Storm" sewers carry runoff from rain or snow. "Combined" sewers handle both.

Stratification (of water body): Formation of water layers each with specific physical, chemical, and biological characteristics. As the density of water decreases due to surface heating, a stable situation develops with lighter water overlaying heavier and denser water.

Streamflow: Discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term streamflow is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Surface area: The area of the surface of a water body.

Surface runoff: Precipitation, snowmelt, or irrigation water in excess of what can infiltrate the soil surface and be stored in small surface depressions; a major transporter of nonpoint source pollutants.

Surface water: All water naturally open to the atmosphere (rivers, lakes, reservoirs, ponds, streams, impoundments, seas, estuaries, etc.) and all springs, wells, or other collectors directly influenced by surface water.

Total maximum daily load (TMDL): The sum of the individual wasteload allocations (WLAs) for point sources, load allocations (LAs) for nonpoint sources and natural background, plus a margin of safety (MOS). TMDLs can be expressed in terms of mass per time, toxicity, or other appropriate measures that relate to a state's water quality standard.

Turbidity: A measure of the degree of clarity of a solution. For cloudy water, turbidity would be high; for clear water, turbidity would be low.

Wastewater: Usually refers to effluent from a sewage treatment plant. See also domestic wastewater.

Wastewater treatment: Chemical, biological, and mechanical procedures applied to an industrial or municipal discharge or to any other sources of contaminated water in order to remove, reduce, or neutralize contaminants.

Water quality: The biological, chemical, and physical conditions of a water body. It is a measure of a water body's ability to support beneficial uses

Watershed: The area of land that drains into a specific water body.

Wetland: An area that is saturated by surface water or ground water with vegetation adapted for life under those soil conditions, as in swamps, bogs, fens, marshes and estuaries.