



World Water Day

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Clean Water for a Healthy World

Water quality terms

Acidification

The process by which chemical compounds such as ammonia, nitrogen oxides, and sulphur dioxides are converted into acid substances. Industrial activities, especially mining and power production from fossil fuels, can cause acidification of freshwater systems and impair ecosystem health.

Arsenic

Arsenic is a semi-metal that occurs naturally in rocks and soil, water, air, and plants and animals, and is also a product of industry and runoff. It is hazardous to health, both long- and short-term. Arsenic tends to occur more frequently in groundwater, and because it is odorless and tasteless, cannot be detected without testing.

Biological Oxygen Demand

Used as an indicator of water quality, Biological Oxygen Demand (BOD) is a measure of the oxygen used by microorganisms to decompose organic waste in water.

Chlorination byproducts

Chlorine is a commonly used disinfectant to control bacteria in water supplies. Chlorination byproducts are chemicals (like chloroform) that result from the reaction of chlorine with organic substances in water. There is evidence of potential health risks from long-term exposure to these compounds; there are water-treatment devices that reduce disinfection byproducts and other contaminants.

Coliform

A group of bacteria predominantly inhabiting the intestines of humans or animals but also found in soil. The presence of certain types of coliform bacteria is an indicator of the sanitary quality of water.

Endocrine disruptor

A natural or man-made chemical that can affect the endocrine system (hormones) and may consequently cause adverse health effects in organisms and offspring. The endocrine system regulates the way the body secretes hormones as “messengers” to stimulate developmental changes, so endocrine disruption may interfere with growth and reproduction.

Eutrophication or nutrient enrichment

Increased inputs of nitrogen and phosphorus from agricultural runoff and also human and industrial waste into water bodies leads to excessive plant (principally algae) growth and decay. Low dissolved oxygen in the water is a common consequence, which can stress and kill aquatic organisms that require oxygen.

Heavy metals

Heavy metals (like iron, magnesium, zinc, copper, chromium, molybdenum, and selenium) are a cause of environmental pollution from a number of sources, the primary of which is industry. Even at extremely low concentrations these can be toxic to aquatic organisms or can impair reproductive and other functions.

Non-point source

Pollution sources which cannot be traced to a single point of origin. Non-point source pollution is often used to refer to pollution from agriculture and human settlements, as opposed to pollution from an industrial facility (point source). Because these sources of pollution are dispersed, they are often harder to monitor and regulate.

Nutrient abatement

Strategies to reduce the nutrient loads in water bodies in order to reduce eutrophication and improve the ecological state. Reducing nutrient discharges and agricultural runoff is one nutrient abatement strategy.

Organic pollutants

Pollutants that easily decompose in water and consume dissolved oxygen, which leads to eutrophication. They mainly come from industrial wastewater and domestic sewage, seepage from landfills, agricultural runoff (and also include products like detergents and hygiene products, insecticides, fossil fuel, vegetation debris, and more).

Particulate matter

Small solid particles suspended in water.

Pathogenic organisms

Bacteria, protozoa, and viruses are the most widespread class of water-quality contaminants. These organisms pose one of the leading global human health hazards, especially in areas where access to safe, clean water is limited. The greatest risk of microbial contamination comes from consuming water contaminated with pathogens from human or animal feces. (Unsafe water causes about 4 billion cases of diarrhea each year, and results in 2.2 million deaths, mostly of children under five.)

Persistent Organic Pollutants (POPs)

Organic compounds that are resistant to environmental degradation and so persist in the environment – and can be transported over long distances – with consequences for the health and well-being of humans and wildlife.

Point source

A stationary location or specific facility from which pollutants are discharged.

Salinity

The saltiness or dissolved salt content of water. Freshwater plant and animal species typically do not tolerate high salinity. Increasing salinisation is a water-quality problem, which can be impacted by agricultural runoff from high-saline soils and saltwater intrusion into coastal aquifers due to over-pumping of groundwater or rising sea levels.

Sedimentation

A water treatment process where particles in the water settle to the bottom, largely as a function of gravity, used to separate out suspended solids. Much of wastewater treatment includes sedimentation processes.

Wastewater treatment

Mechanical, chemical or biological processes used to upgrade the quality of domestic or industrial wastewater to improve the chemical, physical and biological characteristics of water, making it less harmful to human and ecosystem health.

Water quality

The chemical, physical, and biological characteristics of water, indicating its suitability for a particular purpose (like drinking, industry, etc.).

Water treatment

Processes (such as sedimentation, filtration, and chlorination) for purifying water to an appropriate quality, often used to refer to treatment of water to drinking water standards.

Watershed

The land area where precipitation runs off into streams, rivers, lakes, and reservoirs, also called the river basin or catchment.