Glossary

Absorption — The physical integration of a liquid into the pore spaces of a solid, such as water being absorbed into a sponge.

Adsorption — The electro-chemical attraction of positively or negatively charged ions or molecules onto solids with an opposite charge.

Advection — The process by which solutes are transported by the bulk motion of the flowing groundwater.

Aeration — A process causing intimate contact between air and a liquid by one or more of the following methods: (a) spraying the liquid in the air, (b) bubbling air through the liquid, and (c) agitating the liquid to promote absorption of oxygen through the air liquid interface.

Aeration, soil — The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aerobic — Having or occurring in the presence of free oxygen.

Aerobic bacteria — Bacteria that require free elemental oxygen for their growth. Oxygen in chemical combination will not support aerobic organisms.

Agricultural waste management system — A combination of conservation practices formulated to appropriately manage a waste product that, when implemented, will recycle waste constituents to the fullest extent possible and protect the resource base in a nonpolluting manner.

Agricultural wastes — Wastes normally associated with the production and processing of food and fiber on farms, feedlots, ranches, ranges, and forests which may include animal manure, crop and food processing residues, agricultural chemicals, and animal carcasses.

Alluvial — Pertaining to or composed of alluvium or deposited by a stream or running water.

Alluvium — A general term for clay, silt, sand, gravel, or similar unconsolidated material deposited during comparatively recent geologic time by a stream or other body of running water as a sorted or semi-sorted sediment in the bed of the stream or in its flood plain or delta, or as a cone or fan at the base of a mountain slope.

Amino acids — Organic nitrogen compounds which are the building blocks of proteins.

Ammonia nitrogen — The nitrogen component of the gas (NH_3) released by the microbiological decay of plant and animal proteins. (The term sometimes refers to the total of NH_3 and the ammonium ion, NH_4^+)

Ammonia volatilization — The loss of ammonia gas to the atmosphere.

Ammonium — An ion (NH_4^+) derived from ammonia (NH_3).

Anaerobic The absence of molecular oxygen, or growing in the absence of oxygen, such as anaerobic bacteria.

Anaerobic bacteria Bacteria not requiring the presence of free or dissolved oxygen.

Anaerobic digester A heated, air-tight apparatus that facilitates anaerobic digestion.

Anaerobic digestion Conversion of organic matter in the absence of oxygen under controlled conditions to such gases as methane and carbon dioxide.

Anaerobic lagoon A facility to treat animal waste by predominantly anaerobic biological action using anaerobic organisms, in the absence of oxygen, for the purpose of reducing the strength of the waste.

Ancillary practice A treatment or conservation practice used to meet a specific need in planning and carrying out soil and water conservation programs.

Anion exchange Ion exchange process in which anions in solution are exchanged for other anions from an ion exchanger.

Anion Negatively charged ion that can adsorb to negatively charged particles. Common soil anions are nitrates (NO_3^-) and orthophosphates ($H_2PO_4^-$).

Aquitard A geologic formation, group of formations, or part of a formation through which virtually no water moves.

Artesian well A well deriving its water from a confined aquifer in which the water level stands above the ground surface; synonymous with flowing well.

Available nitrogen Form of nitrogen that is immediately available for plant growth (NO_3^- or NH_4^+).

Available nutrient A nutrient molecule that can be adsorbed and assimilated by growing plants.

Available phosphorus Forms of phosphorus that can be immediately used for plant growth.

Available water capacity (available moisture capacity) The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile is expressed as:

Very low	0 to 3 inches
Low	3 to 6 inches
Moderate	6 to 9 inches
High	9 to 12 inches
Very high	> 12 inches

Bacteria A group of universally distributed, rigid, essentially unicellular procaryotic micro-organisms. Bacteria usually appear as spheroid, rod-like or curved entities, but occasionally appear as sheets, chains, or branched filaments.

Basalt A general term for dark-colored iron- and magnesium-rich igneous rocks, commonly extrusive, but locally intrusive. It is the principal rock type making up the ocean floor.

Baseflow Water that having infiltrated the soil surface, percolates to the ground water table and moves laterally to reappear as surface runoff.

Bedrock The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Best Management Practice (BMP) A practice or combination of practices found to be the most effective, practicable (including economic and institutional considerations) means of preventing or reducing the amount of pollution generated by non-point sources to a level compatible with water quality goals.

Biochemical Oxygen Demand (BOD) An indirect measure of the concentration of biodegradable substances present in an aqueous solution. Determined by the amount of dissolved oxygen required for the aerobic degradation of the organic matter at 20 °C. BOD_5 refers to that oxygen demand for the initial five days of the degradation process.

Biological wastewater treatment Forms of wastewater treatment in which bacterial or biochemical action is intensified to stabilize or oxidize the unstable organic matter present. Oxidation ditches, aerated lagoons, anaerobic lagoons and anaerobic digesters are examples.

Biomagnification The process by which toxic substances become concentrated in animal and plant tissues.

Biomass The total amount of living material, plants and animals, above and below ground in a particular area.

Boulders Rock fragments larger than 2 feet (60 cm) in diameter.

Candidate measure (CM) A practice that has the potential to reduce pollutant loading, and thereby, the potential to improve water quality.

Capillary fringe The zone at the bottom of the vadose zone where ground water is drawn upward by capillary force.

Carbonate A sediment formed by the organic or inorganic precipitation from aqueous solution of carbonates of calcium, magnesium, or iron.

Cation Positively charged ion; can adsorb to soil particle. Common soil cations are ammonium (NH_4^+), calcium (Ca^{+2}), and potassium (K^+).

Cation exchange Ion exchange process in which cations in solution are exchanged for other cations on the surface of a surface-active (ion exchanger) material, such as a clay colloid or organic colloid.

Cation-exchange capacity The total amount of exchangeable cations that can be adsorbed by a soil, or a soil constituent expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value.

Chemical Oxygen Demand (COD) An indirect measure of the biochemical load exerted on the oxygen content of a body of water when organic wastes are introduced into the water. If the wastes contain only readily available organic bacterial food and no toxic matter, the COD values can be correlated with BOD values obtained from the same wastes.

Chlorinated hydrocarbons A class of synthetic organic compounds used by industry, farms, and households for a variety of purposes including pest control. These organic compounds can also be produced by chlorinating sewage effluent, which is done to aid oxidation and kill pathogens contained in the untreated effluent.

Clay As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Coarse textured soil Sand or loamy sand.

Coefficient of storage The volume of water an aquifer releases from or takes into storage per unit surface area of the aquifer per unit change in head.

Coliform bacteria A group of bacteria predominantly found in the soil. The fecal coliform species inhabits the intestines of man or animal. Coliform bacteria includes all aerobic and facultative anaerobic, gram-negative, non-spore-forming bacilli that ferment lactose with production of gas. This group of "total" coliforms includes Escherichia coli (E-Coli), which is considered to be a typical coliform of fecal origin.

Complexation (chelation) The reaction between a metallic ion and a complexing organic agent that form a complex chemical ring structure and the effective removal of the metallic ion from the system.

Composting A process of aerobic biological decomposition of organic material characterized by elevated temperatures that, when complete, results in a relatively stable product suitable for a variety of agricultural and horticultural uses.

Conductivity See electrical and hydraulic conductivity.

Cone of depression A depression in the ground water table or potentiometric surface that has the shape of an inverted cone and develops around a well from which water is being withdrawn. It defines the area of influence of a well.

Confined aquifer A formation in which the ground water is isolated from the atmosphere at the point of discharge by impermeable geologic formations. Confined ground water is generally subject to pressure greater than atmospheric.

Conservation cropping sequence An adapted sequence of crops designed to provide adequate organic residue for maintenance or improvement of soil tilth and for other conservation purposes.

Conservative pollutants Pollutants that are not altered as they are transported from their source to the receiving water.

Conservation practice A specific structural, managerial, or cultural treatment of natural resources commonly used to meet a specific need in planning and carrying out soil and water conservation programs.

Contamination The degradation of water quality as a result of natural processes and/or the activities of people. No specific limits are established because the degree of permissible contamination depends upon the intended end use or uses of the water.

Conventional tillage Those primary and secondary tillage operations that are considered standard for the specific location and crop.

Cost-effectiveness A term used to economically compare agricultural nonpoint source control alternatives. It is generally expressed as dollars per unit pollutant load reduction.

Cover crop A close-growing crop, whose main purpose is to protect and improve the soil and use excess nutrients or soil moisture during the absence of the regular crop, or in the nonvegetated areas of orchards and vineyards.

Crop consumptive use See Evapotranspiration.

Crop rotation A planned sequence of crops.

Cultural eutrophication The process of nutrient enrichment artificially accelerated by some action(s) of human society (see “Eutrophication”).

Darcy’s law A derived equation for the flow of fluids on the assumption that the flow is laminar and that inertia can be neglected.

Decisionmaker An individual or group of people with the responsibility for making decisions about land use and treatment.

Deep percolation The downward movement of water through the soil and below the root zone.

Demineralization The total removal of all ions.

Denitrification The chemical or biological reduction of nitrate or nitrite to gaseous nitrogen, either as molecular nitrogen (N_2) or as an oxide of nitrogen (N_2O).

Desorption The release of sorbed ions or compounds from solid surfaces.

Detention pond See Waste storage ponds.

Digestion The process of organic matter breaking down into simpler and/or more biologically stable products; e.g., ammonia to organic nitrogen.

Direct runoff Both surface flow and the interflow component of subsurface flow.

Dispersion The spreading and mixing of chemical constituents in ground water caused by diffusion and mixing because of microscopic variations in velocities within and between pores.

Dissolved oxygen (DO) The molecular oxygen dissolved in water, wastewater, or other liquid; generally expressed in milligrams per liter, parts per million, or percent of saturation.

Dry-weight percentage The ratio of the weight of any constituent to the oven-dry weight of the whole substance, such as plant or soil.

Earthen manure storage basin See Waste storage pond.

Effluent The liquid discharge from a waste treatment process.

Effluent standard Designated limit in the amount of any constituent within an effluent.

Electrical conductivity Conductivity of electricity through water or an extract of soil.

Enrichment ratio The ratio of pollutant concentration in the runoff or sediment to its concentration in the soil or soil water, respectively.

Equipotential line A contour line on the water table or potentiometric surface; a line along which the pressure head of ground water in an aquifer is the same. Fluid flow is normal to these lines in the direction of decreasing fluid potential.

Erosion The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (accelerated) Erosion much more rapid than geologic erosion, mainly as a result of the activities of man or other animals or of a catastrophe in nature, for example, fire, that exposes the surface.

Erosion (geologic) Erosion caused by geologic processes acting over long geologic periods.

Escherichia coli (E. Coli) One of the species of bacteria in the intestinal tract of warm-blooded animals. Its presence is considered indicative of fecal contamination.

Eutrophication A natural or artificial process of nutrient enrichment whereby a water body becomes abundant in plant nutrients and low in oxygen content.

Evapotranspiration The loss of water from an area by evaporation from the soil or snow cover and transpiration by plants.

Exchange capacity The abundance of sites (within the soil sample) which have the potential for being actively engaged in ion adsorption. See Cation-exchange capacity.

Fault — A fracture or a zone of fractures along which there has been displacement of the sides relative to one another parallel to the fracture.

Fertilizer value — An estimate of the value of commercial fertilizer elements (N, P, K) that can be replaced by manure or organic waste material. Usually expressed as dollars per ton of manure or quantity of nutrients per ton of manure.

Field (moisture) capacity — The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away.

Fine textured soil — Sandy clay, silty clay, and clay.

Flow lines — Lines indicating the direction followed by groundwater toward points of discharge. Flow lines are perpendicular to equipotential lines.

Flushing system — A system that collects and transports or moves waste material with the use of water, such as in washing of pens and flushing confinement livestock facilities.

Grassed infiltration area — An area with vegetative cover where runoff water infiltrates into the soil.

Ground water — Water filling all the unblocked pores of underlying material below the water table.

Ground water table — The surface between the zone of saturation and the zone of aeration; the surface of an unconfined aquifer.

Half-life — The time required for one half of a specified substance to be transformed to another substance.

Head loss — That part of head energy which is lost because of friction as water flows.

Head — Energy contained in a water mass; expressed in elevation (feet) or pressure (pounds per square feet).

Horizon, soil — A layer of soil, approximately parallel to the surface, having distinct characteristics produced during soil-forming processes.

Hydraulic conductivity — The rate of flow of water in gallons per day through a cross section of one square foot under a unit hydraulic gradient, at the prevailing temperature (gpd/ft^2). In the SI system, the units are $m^3/day/m^2$ or m/day.

Hydraulic gradient — The rate of change in total head per unit of distance of flow in a given direction.

Hydrologic condition — Description of the moisture present in a soil by amount, location, and configuration.

Hydrologic soil groups A classification system used by the Natural Resources Conservation Service to group soils according to their runoff-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered, but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a permanent high water table, or are shallow over nearly impervious bedrock or other material.

Igneous rock Rocks that solidified from molten or partly molten material, that is, from a magma.

Infiltration The downward entry of water into the immediate surface of soil or other material.

Infiltration rate The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Interflow Water that enters the soil surface and moves laterally through the soil layers to reappear as surface flow. Flow takes place above ground water level.

Ion A charged element or compound that has gained or lost electrons so that it is no longer neutral electrically.

Karst topography A type of topography that is formed in limestone, gypsum, and other similar type rock by dissolution and is characterized by sinkholes, caves, and rapid underground water movement.

Labile Readily coming into equilibrium.

Lagoon See Waste treatment lagoon.

Land application Application of manure, sewage sludge, municipal wastewater, and industrial wastes to land for reuse of the nutrients and organic matter for their fertilizer and soil conditioning values.

Landscape The environment, both natural and built, that surrounds us.

Landscape character A measure of an apparent harmony or unity among all landscape elements, built and natural, that can be intensified or preserved to make a memorable scene.

Landscape quality A composite of those landscape conditions and perceived values that provide diverse and pleasant surroundings for human use and appreciation. Recognized components of landscape quality include visual resource, landscape use, viewscape, and visibility.

LC_{50}–lethal concentration The concentration at which 50 percent of the target organisms are killed in water. Generally expressed as milligrams of toxicant per liter of water (mg/L).

LD_{50}–lethal dose The dose at which 50 percent of the target organisms are killed. Toxicant is administered orally or subcutaneously. Generally expressed as milligrams of toxicant per kilogram of body weight (mg/kg).

Leaching (1) The removal of soluble constituents, such as nitrates or chlorides, from soils or other material by the movement of water. (2) The removal of salts and alkali from soils by irrigation combined with drainage. (3) The removal of a liquid through a non-watertight artificial structure, conduit, or porous material by downward or lateral drainage, or both, into the surrounding permeable soil.

Limestone A sedimentary rock consisting chiefly of calcium carbonate.

Limiting nutrient Nutrient that restricts plant growth.

Linear programming (LP) Computational technique used to find solutions for multivariable problems.

Liquid manure A mixture of water and manure that behaves more like a liquid than a solid, generally less than 5 percent solids.

Livestock waste A term sometimes applied to manure that may also contain bedding, spilled feed, water, or soil. It also includes wastes not particularly associated with manure, such as milking center or washing wastes, and milk, hair, feathers, or other debris.

Load Quantity of substance entering the receiving body.

Macronutrient A chemical element required, in relatively large amounts, for proper plant growth.

Managerial controls Candidate treatments that involve changes in timing, chemical application rates, or tillage systems and generally do not involve separate field activities.

Manure The fecal and urinary excretions of livestock and poultry.

Mechanical solids separation The process of separating suspended solids from a liquid-carrying medium by trapping the particles on a mechanical screen or sieve or by centrifugation.

Microclimate Climate as experienced at the scale of a particular site. Includes such elements as solar orientation, wind direction, temperature, and precipitation.

Micronutrient A chemical element required, in relatively small amounts, for proper plant growth.

Mineralization The microbial conversion of an element from an organic to an inorganic state.

Molecular diffusion Dispersion of a chemical caused by the kinetic activity of the ionic or molecular constituents.

Monitoring Systematic collection of data on a routine basis and the analysis of these data for an understanding of the changes that may occur in the sampled environment.

Morphology, soil The constitution of the soil including the texture, structure, consistence, color, and other physical, chemical, and biological properties of the various soil horizons that make up the soil profile.

Mulch Any substance that is spread on the soil surface to decrease the effects of raindrop impact, runoff, and other adverse conditions and to retard evaporation.

Municipal waste Solid and liquid fractions of wastes produced by a municipality. Municipal wastes may be treated or untreated and may be either used or disposed of.

Nitrification The biochemical transformation by oxidation of ammonium (NH_4^+) to nitrite (NO_2^-) or nitrate (NO_3^-).

Nitrate nitrogen The nitrogen component of the final decomposition product (NO_3^-) of the organic nitrogen compounds; expressed in terms of the nitrogen part of the compound (NO_3^-–N).

Nitrogen A chemical element, commonly used in fertilizer as a nutrient, which is also a component of animal wastes. As one of the major nutrients required for plant growth, nitrogen can promote algal blooms that cause water body eutrophication if it runs off or leaches out of the surface soil. Nitrogen is immediately usable for plant growth in available forms (NO_3^- or NH_4^+).

Nitrogen cycle The succession of biochemical reactions that nitrogen undergoes as it is converted to organic or available nitrogen from the elemental form. Organic nitrogen in waste is oxidized by bacteria into ammonia (NH_3). If oxygen is present, ammonia is bacterially oxidized first into nitrite (NO_2^-) and then into nitrate (NO_3^-). If oxygen is not present, nitrite and nitrate are bacterially reduced to nitrogen gas, completing the cycle.

Nitrogen fixation The biological process by which elemental nitrogen is converted to organic or available nitrogen.

No-till A planting procedure that requires no tillage except that done by a coulter in the immediate area of the crop row.

Nonpoint source (NPS) Entry of effluent into a water body in a diffuse manner so there is no definite point of entry.

Nutrient absorption See Absorption.

Nutrient assimilation The conversion or incorporation of plant nutrients into plant cells and tissue.

Nutrient transformation The changing in the form of a plant element that may affect the stability, availability, or mobility of the compound. An example is the changing of ammonium nitrogen (NH_4^+) to nitrate nitrogen (NO_3^-).

Nutrient, plant See Nutrients.

Nutrients Elements required for plant or animal growth, including the macronutrients (nitrogen, phosphorus, and potassium), which are the major nutrients required and micronutrients, which include a number of other elements that are essential but needed in lesser amounts.

Organic matter The organic fraction of the soil exclusive of undecayed plant and animal residue.

Pathogens Disease causing micro-organisms; generally associated with viruses or bacteria.

Perched water Unconfined ground water separated from an underlying main body of ground water by an unsaturated zone (generally an aquaclude).

Percolation rate The rate of movement of water under hydrostatic pressure down through the interstices of rock, soil, or filtering media except movement through large openings, such as caves.

Percolation The downward movement of water through soil.

Permanent wilting point The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Permeability The quality of the soil that enables water to move downward through the profile. Permeability is measured as the number of inches per hour that water moves downward through the saturated soil. Terms describing permeability are:

Very slow	less than 0.06 inches/hr
Slow	0.06 to 0.2 inches/hr
Moderately slow	0.2 to 0.6 inches/hr
Moderate	0.6 to 2.0 inches/hr
Moderately rapid	2.0 to 6.0 inches/hr
Rapid	6.0 to 20 inches/hr
Very rapid	more than 20 inches/hr

Persistence Relates to the time required for a chemical (usually a pesticide) to degrade into a harmless compound; expressed as half-life.

pH The negative logarithm of the hydrogen ion concentration. The pH scale ranges from zero to 14. Values below 7 are considered acidic and those above, alkaline.

Phosphate Phosphate ions exist in water as $H_2PO_4^-$ or HPO_4^{-2}. Otherwise phosphate is an ester or salt of phosphoric acid, such as calcium phosphate rock.

Phosphorus One of the primary nutrients required for the growth of plants. Phosphorus is often the limiting nutrient for the growth of aquatic plants and algae.

Point source The release of a contaminant or pollutant, often in concentrated form, from a conveyance system, such as a pipe, into a water body.

Pollutant Delivery Ratio (PDR) The fraction of a pollutant leaving an area that actually enters a body of water.

Pollution/polluted The presence in a body of water (or soil or air) of a substance (contaminant) in such quantities that it impairs the body's usefulness or renders it offensive to the senses of sight, taste, or smell. In general, a public health hazard may be created, but in some instances only economic or aesthetics are involved, such as when foul odors pollute the air.

Ponding Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Porous dam A runoff control structure that reduces the rate of runoff so that solids settle out in the settling terrace or basin. The structure may be constructed of rock, expanded metal, or timber arranged with narrow slots.

Potassium One of the primary nutrients required for the growth of plants.

Potentiometric surface An imaginary surface representing the total head of ground water in a confined aquifer that is defined by the level to which water could rise in a well.

Pumping test A test that is conducted to determine aquifer yield or well characteristics.

Reduced tillage A management practice whereby the use of secondary tillage operations is significantly reduced.

Resource base The combination of soil, air, water, plants, and animals that makes up the natural environment.

Resource Management System (RMS) A combination of conservation practices and management identified by the primary use of land or water that, when installed, will at a minimum protect the resource base.

Ridge planting The practice of growing a row crop on the ridges between the furrows.

Rock fragments Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone The part of the soil that can be penetrated by plant roots.

Run-on The water moving by surface flow onto a designated area. Run-on occurs when surface water from an area at a higher elevation flows down onto an area of concern, such as a feedlot, vegetated filter strip, or riparian zone.

Runoff The part of precipitation or irrigation water that appears in surface streams or water bodies; expressed as volume (acre-inches) or rate of flow (gallons per minute, cubic feet per second).

Salt A compound made up of the positive ion of a base and the negative ion of an acid.

Sampling Collection of a small part of an entity and drawing conclusions about the whole. In water quality considerations, sampling consists of collecting a representative part of a water body for testing from which conclusions can be drawn about the water body as a whole.

Sandstone A sedimentary rock composed of abundant rounded or angular fragments of sand set in a fine-grained matrix (silt or clay) and more or less firmly united by a cementing material.

Sediment Delivery Ratio (SDR) Fraction of eroded soil that actually reaches a water body.

Sediment delivery Sediment arriving at a specific location. See Sediment Delivery Ratio.

Sediment yield Quantity of sediment leaving a specified land area.

Sedimentary rocks Rocks resulting from the consolidation of loose sediment that has accumulated in layers.

Sedimentation tank A unit in which water or wastewater containing settleable solids is retained to remove by gravity a part of the suspended matter. Also called sedimentation basin, settling basin, settling tank, or settling terrace.

Septage Septic tank pumpings; the mixed liquid and solid contents pumped from septic tanks and dry wells used for receiving domestic type sewage.

Septic tank A settling tank in which settled solid matter is removed from the wastewater flowing through the tank and the organic solids are decomposed by anaerobic bacterial action.

Settleable solids (1) That matter in wastewater that will not stay in suspension during a preselected settling period, such as 1 hour. (2) In the Imhoff cone test, the volume of matter that settles to the bottom of the cone.

Sewage sludge Settled sewage solids combined with varying amounts of water and dissolved materials that are removed from sewage by screening, sedimentation, chemical precipitation, or bacterial digestion.

Shale A fine-grained sedimentary rock, formed by the consolidation of clay, silt, or mud. This rock is characterized by finely laminated structure and is sufficiently indurated so that it will not fall apart on wetting.

Sheet erosion Soil erosion occurring from a thin, relatively uniform layer of soil particles on the soil surface. Also called interrill erosion.

Site design A careful search among physical elements to plan for human and animal occupation and utilization of a site so that comfort, profitability, and usefulness are maximized and harmful stress is reduced.

Slope The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Sodicity The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract.

Soil A natural, three-dimensional body at the Earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over time.

Soil amendment Any material, such as lime, gypsum, sawdust, or synthetic conditioner, that is worked into the soil to make it more amenable to plant growth. Amendments may contain important fertilizer elements, but the term commonly refers to added materials other than fertilizer.

Soil and Water Conservation Practices (SWCPs) The manipulation of such variables as crops, rotation, tillage, management, and structures to reduce the loss of soil and water.

Soil organic matter The organic fraction of the soil that includes plant and animal residue at various stages of decomposition, exclusive of undecayed plant and animal residue. Often used synonymously with humus.

Soil profile A section of the soil viewed on a vertical plane extending through all its horizons and into the parent material.

Soil solution The liquid phase of the soil including dissolved organic and inorganic materials.

Solid manure storage A storage unit in which accumulations of bedded manure or solid manure are stacked before subsequent handling and field spreading. The liquid part, including urine and precipitation, may or may not be drained from the unit.

Solids content (1) The sum of the dissolved and suspended constituents in water or wastewater. (2) The residue remaining when the water is evaporated away from a sample of sewage, other liquids, or semi-solid masses of material and the residue is then dried at a specified temperature (generally 103 °C for 24 hours); usually stated in milligrams per liter (mg/L) or percent solids.

Sorbed Adsorbed or absorbed.

Spatial The occupied space relationship between a soil or soil map unit to the landscape or geomorphic surface on which the soil or map unit is located.

Stones Rock fragments 10 to 24 inches (25 to 60 cm) in diameter.

Stream classification The identification of specific water uses for watercourses.

Struvite A colorless to yellow or pale-brown mineral, $(M_gNH_4PO_4)(6H_2O)$, that can build up as crystals on pump impellers and in pipes conveying wastewater.

Structural controls Candidate measures that require capital investment, construction activities, and, consequently, certain economic risks.

Structure, soil The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular or subangular), and granular. Structureless soils are either single grained (each grain by itself, as in dune sand) or massive (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsurface runoff Water that infiltrates the soil and then moves laterally/vertically below the surface; includes baseflow and interflow.

Supernatant The liquid fraction in a lagoon.

Surface layer The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from about 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.” Some water quality models refer to surface layer as the first few centimeters of soil.

Surface soil The A, E, AB, and EB horizons. It includes all subdivisions of these horizons.

Suspended solids (1) Undissolved solids that are in water, wastewater, or other liquids, and are largely removable by filtering or centrifuging. (2) The quantity of material filtered from wastewater in a laboratory test, as prescribed in APHA Standard Methods for the Examination of Water and Wastewater or similar reference.

Symbiotic Two organism living together in close association in which nether are harmed and both benefit.

Synthetic organic compounds Organic compounds created by industry either inadvertently as a part of a chemical process or for use in a wide array of applications for modern day life. Some that have been created are persistent in the environment (slow to decompose) because oxidizers, such as soil microbes, may not be readily able to use them as an energy source.

Texture, soil The relative proportions of sand, silt, and clay particles in a mass of soil.

Tilth, soil The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Total solids The total amount of solids in a waste, both in solution and suspension.

Toxicity Degree of harmful effect an element or compound may have on a living organism, plant, or animal. Excessive amount of toxic substances, such as sodium or sulfur, that severely hinder establishment of vegetation or severely restrict plant growth.

Trace elements Chemical elements (for example, zinc, cobalt, manganese, copper, and iron) in soils in extremely small amounts that may be essential to plant growth.

Unconfined aquifer An aquifer where the water table is exposed to the atmosphere through openings in the overlying materials.

Universal Soil Loss Equation (USLE) An empirical equation estimating the amount of soil loss; used for the evaluation of a resource management system for water erosion control.

Vadose zone The zone containing water under less pressure than that of the atmosphere, including soil water, intermediate vadose water, and capillary water. This zone is limited above by the land surface and below the surface of the zone of saturation, that is, the water table.

Vector A bearer or carrier; such as an organism (often an insect), that carries and transmits disease-causing micro-organisms.

Vegetative practices Candidate measures that include vegetation as the principal method of pollution control.

View A scene observed from a given vantage point; can be preserved, neutralized, modified, or accentuated.

Viewshed All the land and landscape elements that make up or affect a view from a given location or point; delineated by the horizon/silhouette line, enclosure by built or natural elements.

Vista A confined view, generally toward a terminal or dominant element or feature; may be natural or structural; may be created in its entirety and is therefore subject to close control.

Volatile solids Readily vaporizable solids. Those solids that are combustible at 600 °C.

Volatilization The loss of gaseous components, such as ammonium nitrogen, from animal manure.

Waste management system See Agricultural waste management system.

Waste storage pond An impoundment made by excavation or earthfill for temporary storage of animal or other agricultural waste.

Waste treatment lagoon An impoundment made by excavation or earthfill for biological treatment of animal or other agricultural wastes. Lagoons can be aerobic, anaerobic, or facultative, depending on their loading and design.

Water management system A planned system in which the available water supply is effectively used by managing and controlling the moisture environment of crops to promote the desired crop response, to minimize soil erosion and loss of plant nutrients, to control undesirable water loss, and to protect water quality.

Water quality The excellence of water in comparison with its intended use or uses.

Water table The surface between the vadose zone and the ground water; that surface of a body of unconfined ground water at which the pressure is equal to that of the atmosphere.

Wet-weight percentage The ratio of the weight of any constituent to the typical hydrated weight of the whole plant part as harvested.