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A Glossary of Terms  
Commonly Used in  
Discussing the Environment

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**absorption:** The penetration of a substance into or through another. For example, in air pollution control, absorption is the dissolving of a soluble gas, present in an emission, in a liquid which can be extracted.

**activated sludge:** Sludge that has been aerated and subjected to bacterial action, used to remove organic matter from sewage.

**adsorption:** The adhesion of a substance to the surface of a solid or liquid. Adsorption is often used to extract pollutants by causing them to be attached to such adsorbents as activated carbon or silica gel. Hydrophobic, or water-repulsing adsorbents, are used to extract oil from waterways in oil spills.

**air pollution:** The presence of contaminants in the air in concentrations that prevent the normal dispersive ability of the air and that interfere directly or indirectly with man's health, safety or comfort or with the full use and enjoyment of his property.

**alpha particle:** A positively charged particle emitted by certain radioactive materials. It is the least penetrating of the three common types of radiation (alpha, beta, and gamma) and usually not dangerous to plants, animals or man, unless ingested or inhaled.

**aquifer:** An underground bed or stratum of earth, gravel or porous stone that contains water.

**backfill:** The material used to refill a ditch or other excavation, or the process of doing so.

**background radiation:** Normal radiation present in the lower atmosphere from cosmic rays and from earth sources.

**beta particle:** An elementary particle emitted by radioactive decay that may cause skin burns. It is easily stopped by a thin sheet of metal.

**biodegradable:** The process of decomposing quickly as a result of the action of microorganisms.

**biosphere:** The portion of the earth and its atmosphere capable of supporting life.

**carbon dioxide (CO<sub>2</sub>):** A colorless, odorless, nonpoisonous gas that is a normal part of the ambient air. CO<sub>2</sub> is a product of fossil fuel combustion, and some researchers have theorized that excess CO<sub>2</sub> raises atmosphere temperatures.

**carbon monoxide (CO):** A colorless, odorless highly toxic gas that is a normal byproduct of incomplete fossil fuel

**combustion.** CO, one of the major air pollutants, can be harmful in small amounts if breathed over a certain period of time.

**clarifier:** In waste water treatment, a settling tank which mechanically removes settleable solids from wastes.

**coliform organism:** Any of a number of organisms common to the intestinal tract of man and animals whose presence in waste water is an indicator of pollution and of potentially dangerous bacterial contamination.

**dosimeter (dosemeter):** An instrument used to measure the amount of radiation a person has received.

**environment:** The sum of all external conditions and influences affecting the life, development and ultimately, the survival of an organism.

**environmental impact statement:** A document prepared by an organization on the environmental impact of its proposals for legislation and other major actions significantly affecting the quality of the human environment. Environmental impact statements are used as tools for decision making and are required by the National Environmental Agency.

**fly ash:** All solids, including ash, charred paper, cinders, dust, soot or other partially incinerated matter, that are carried in a gas stream.

**fossil fuels:** Coal, oil and natural gas; so-called because they are derived from the remains of ancient plant and animal life.

**gamma ray:** Waves of radiant nuclear energy. Gamma rays are the most penetrating of the three types of radiations and are best stopped by dense materials such as lead.

**groundwater:** The supply of freshwater under the earth's surface in an aquifer or soil that forms the natural reservoir for man's use.

**groundwater runoff:** Groundwater that is discharged into a stream channel as spring or seepage water.

**habitat:** The sum total of environmental conditions of a specific place that is occupied by an organism, a population or a community.

**half-life:** The time it takes certain materials, such as persistent pesticides or radioactive isotopes to lose half their strength. For example, the half-life of DDT is 15 years; the half-life of radium is 1,580 years.

**hydrology:** The science dealing with the properties, distribution and circulation of water and snow.

**incinerator:** An engineered apparatus used to burn waste substances and in which all the combustion factors -- temperature, retention time, turbulence and combustion air -- can be controlled.

**infiltration:** The flow of a fluid into a substance through pores or small openings. Commonly used in hydrology to denote the flow of water into soil material.

**isotope:** A variation of an element having the same atomic number as the element itself but having a different atomic weight because of a different number of neutrons. Different isotopes of the same element have different radioactive behavior.

**leaching:** the process by which soluble materials in the soil, such as nutrients, pesticide chemicals or contaminants are dissolved and carried away by water.

**monitoring:** Periodic or continuous determination of the amount of pollutants or radioactive contamination present in the environment.

**nuclear power plant:** Any device, machine or assembly that converts nuclear energy into some form of useful power, such as mechanical or electrical power. In a nuclear electric power plant, heat produced by a reactor is generally used to make steam to drive a turbine that in turn drives an electric generator.

**outfall:** The mouth of a sewer, drain or conduit where an effluent is discharged into the receiving waters.

**ozone (O<sub>3</sub>):** A pungent, colorless, toxic gas. Ozone is one component of photochemical smog and is considered a major air pollutant.

**PCB's:** Polychlorinated biphenyls, a gas of organic compounds. PCB's exhibit many of the same characteristics as DDT and may, therefore, be confused with that pesticide. PCB's are highly toxic to aquatic life, they persist in the environment for long periods of time, and they are biologically accumulative.

**percolation:** Downward flow or infiltration of water through the pores or spaces of a rock or soil.

**pollutant:** Any introduced gas, liquid or solid that makes a resource unfit for a specific purpose.

**radiation:** The emission of fast atomic particles or rays by the nucleus of an atom. Some elements are naturally

radioactive while others become radioactive after bombardment with the neutrons or other particles. The three major forms of radiation are alpha, beta and gamma.

**radiation standards:** Regulations that include exposure standards, permissible concentrations and regulations for transportation.

**rem:** A measurement of radiation dose for the internal tissue of man. (Acronym for roentgen equivalent man.)

**runoff:** The portion of rainfall, melted snow or irrigation water that flows across ground surface and eventually is returned to streams. Runoff can pick up pollutants from the air or the land and carry them to the receiving waters.

**scrubber:** An air pollution control device that uses a liquid spray to remove pollutants from a gas stream by absorption or chemical reaction. Scrubbers also reduce the temperature of the emission.

**sludge:** The construction of solids removed from sewage during waste water treatment. Sludge disposal is then handled by incineration, dumping or burial.

**toxic pollutants:** A combination of pollutants including disease-carrying agents which after discharge and upon exposure, ingestion, inhalation, or assimilation into any organism can cause death or disease, mutations, deformities, or malfunctions in such organisms or their offspring.

**waste water:** Water carrying wastes from homes, businesses and industries that is a mixture of water and dissolved or suspended solids.

**water table:** The upper level of ground water.