

GLOSSARY OF SELECTED TERMS^{1/}

Abatement	Reducing the degree or intensity of, or eliminating pollution
Agroforestry	1. Collective term for land-use systems and technologies in which woody perennials (trees, shrubs, palms, bamboo's and so forth) are deliberately used on the same land management unit as agricultural crops and/or animals, in some form of either spatial arrangement or temporal sequence. 2. The sustainable management of land to increase overall production; combines agricultural crops, tree crops and forest plants and/or animals while simultaneously or consequently applying management practices which are compatible with the cultural patterns of the local population.
Air Pollutant	Any discharges release or over propagation into the atmosphere and includes but is not limited to, smoke, dust, soot, grime, carbon, fumes, gases, odors, particulate matter, acids, or any combination thereof. Any substance not usually present in atmosphere or measured there in greater than usual concentration should be considered an air pollutant.
Air Pollution	The presence of contaminant or pollutant substances in the air that do not disperse properly and interfere with human health or welfare, or produce other harmful and environmental effects.
Algae	1. Chiefly aquatic, eukaryotic one-celled or multicellular plants without true stems, roots, and leaves, that are typically autotrophic, photosynthetic and contain chlorophyll. Algae are not typically found in groundwater. 2. Microscopic plants which contain chlorophyll and live floating or suspended in water. They also may be attached to structures, rocks or other submerged surfaces. They are food for fish and small aquatic animals. Excess algal growth can impart tastes and odors to potable water. Algae produce oxygen during sunlight hours and use oxygen during the night hours. Their biological activities appreciably affect the pH and dissolved oxygen of the water.
Algal Blooms	1. Sudden spurts of algal growth, which can affect water quality adversely and indicate potentially hazardous changes in local water chemistry. 2. Sudden, massive growths of microscopic and macroscopic plant life such as green or bluegreen algae, which develop in lakes and reservoir.
Ammonia - Nitrogen (NH₃-N)	Derived from microbial metabolism of the nitrogenous compounds under low oxygen condition (Chien, 1992); it exists in water both ionized (NH ₄) and unionized (NH ₃) forms; however, pH and low level of dissolved oxygen affects its toxicity; concentration greater than 0.20 mg/l can cause fatalities to fish.
Anaerobic	1. A biological process that occurs in the absence of oxygen. 2. A condition in which "free" (atmospheric) or dissolved oxygen is NOT present in water. 3. Able to live, grow, or take place where free oxygen is not present.

^{1/} Definition of terms was extensively drawn from the US EPA Glossary of Selected Terms and Abbreviations. Found at <http://www.epa.gov/ceisweb1/ceisdocs/glossary.html> accessed June 11, 1999.

Aquaculture	Farming of aquatic organisms including fish, mollusks, crustaceans and aquatic plants; it implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding, protection from predators, etc.
Aquifer	1. An underground geological formation, or group of formations, containing usable amounts of groundwater that can supply wells and springs. 2. A water-bearing layer of rock (including gravel; and sand) that will yield water in usable quantity to a well or spring.
Assimilative capacity	The capacity of a natural body of water to receive wastewaters or toxic materials without harmful effects and without damage to aquatic life or humans who consume the water.
Bagasse	The fibrous material left after all of the juice has been squeezed from the sugarcane. It consists mostly of stalk fibers but also contains leaves and other trash brought in with the cane. Bagasse is about half water and half-dry matter.
Baghouse	An air pollution control device that traps particulate matter by forcing gas streams through large permeable bags usually made of glass fibers.
Beamhouse wastes	Wastes obtained in the tanning industry from the curing, fleshing, washing, dehairing, bating, pickling and degreasing of hides.
Biochemical Oxygen Demand	1. The amount of oxygen consumed by microorganism (mainly bacteria) and by chemical reactions in the biodegradation of organic matter. 2. Oxygen required by microorganisms to degrade organic wastes; a measure of organic loads of an industrial wastewater. 3. A measure of the oxygen required to break down organic materials in water. Higher organic loads require larger amounts of oxygen and may reduce the amount of oxygen available for fish and aquatic life below acceptable levels.
Biological Oxygen Demand (BOD₅)	An indirect measure of the concentration of biologically degradable material present in organic wastes. It usually reflects the amount of oxygen consumed in five days by biological processes breaking down organic waste.
Carbon Dioxide (CO₂)	A colorless, odorless, gas produced by burning fossil fuels, sometimes referred, to as green house gas because it contributes to earth warming.
Carbon Monoxide (CO)	A colorless, odorless, poisonous gas produced by incomplete fossil fuel combustion.
Catalytic Converter	1. Device fitted to the exhaust of motors cars to reduce air pollution by either oxidation or reduction processes. 2. A motor vehicle pollution control device designed to reduce emissions such as oxides of nitrogen, hydrocarbons, and carbon monoxide.
Chemical Oxygen Demand (COD)	Index of water pollution measuring the mass concentration of oxygen consumed by the chemical breakdown of organic and inorganic matter.
Clarifier	1. A tank in which solids settle to the bottom and are subsequently removed as sludge. 2. A large circular or rectangular tank or basin in which water is held for a period of time, during which the heavier suspended solids settle to the bottom. Clarifiers are also called <i>Settling Basins and Sedimentation Basins</i> .

Cold Start	Refers to a start after a period on engine shutoff between 12-36 hours.
Controlled Pollutant Discharges	Total pollutant discharges controlled through primary and secondary treatment of wastewater generated by the industry.
Contour strip farming	A kind of contour farming in which row crop are planted in strips, between alternating strips of close-growing, erosions resistant forage (grass, grain, hay) crops.
Crop rotation	A system of farming in which a regular succession of different crops are planted on the same land area, as opposed to growing the same crop time after time
Cyclone	An air pollution control device that removes larger particles -- generally greater than one micron -- from an air stream through centrifugal force.
Dichloro-Diphenyl-Trichloroethane (DDT)	The first chlorinated hydrocarbon insecticide chemical name. It has a half-life of 15 years and can collect in fatty tissues of certain animals.
Depreciation	Cost of the fixed capital used up in the process of production during the accounting period. Also known as Consumption of Fixed Capital.
Dipterocarp Forest	Forest stand dominated by trees of dipterocarp species such as red and white <i>lauan</i> , <i>tanguile</i> , <i>tiaong</i> , <i>almon</i> , <i>bagtikan</i> , <i>mayapis</i> Philippine mahogany group, <i>apitong</i> and <i>yakal</i> .
Dipterocarp, old growth	Tropical rain forest dominated by Dipterocarpaceae without traces of commercial logging.
Dipterocarp, residual	Tropical rain forest dominated by Dipterocarpaceae with traces of commercial logging.
Dissolved Oxygen	1. Important environmental parameter as it affects the solubility and availability of many nutrients; low levels of DO can cause changes in oxidation state of substances from the oxidized to the reduced form which are often toxic. 2. Measure of water quality indicating free oxygen dissolved in water. 3. The oxygen freely available in water, vital to fish and other aquatic life and for the prevention of odors. DO levels are considered a most important indicator of a water body's ability to support desirable aquatic life. Secondary and advanced waste treatment are generally designed to ensure adequate DO in waste-receiving waters.
Diurnal Emissions	Evaporative emissions which occurs during a typical daily temperature increase and are affected directly by the ambient temperature rise which a parked vehicle experiences.
Effluent	A general term denoting any waste water, partially or completely treated or in its natural state, flowing out of a manufacturing plant, industrial plant or treatment plant. Generally refers to wastes discharged into surface waters.
Effluent Factor	The amount of pollutant generated in kilogram per year.

Electrostatic Precipitator (ESP)	1. A device that removes particles from a gas stream (smoke) after combustion occurs. The ESP imparts an electrical charge to the particles, causing them to adhere to metal plates inside the precipitator. Rapping on the plates causes the particle to fall into a hopper for disposal. 2. Air pollution control device that removes particulate matter from an air stream by imparting an electrical charge to the particles for mechanical collection at an electrode.
Emission	Pollution discharged into the atmosphere from smokestacks, other vents, and surface areas of commercial or industrial facilities; from residential chimneys; and from motor vehicle, locomotive, or aircraft exhausts.
Emission Factor	The relationship between the amount of pollution produced and the amount of raw material processed. For example, an emission factor for a blast furnace making iron would be the number of pounds of particulate per ton of raw materials.
End of Pipe Technology	Added technical installation for environmental control of emissions. They operate independently from the production process or are an identifiable part added on to production facilities.
Environmentally Critical Area	Any area of ecological and economic importance that is prone to pollution (e.g. a lake which serves as fishing ground and a watershed which serves as source of potable water).
Environmental Degradation	Deterioration in environmental quality from ambient concentrations of pollutants and other activities and processes such as improper land use and natural disasters.
Environmental Protection Expenditures	Actual expenses incurred by industries, households, the government and non-government organizations to avoid environmental degradation or eliminating part or all of the effects after degradation has taken place.
Environmental Protection Services	Actual expenses incurred by the government to avoid environmental degradation or to eliminate the effects after degradation took place.
Erosion	The wearing away of soil by wind or water, intensified by land-clearing practices related to farming, residential or industrial development, road building, or logging.
Eutrophication	1. The slow aging process during which a lake, estuary, or bay evolves into a bog or marsh and eventually disappears. During the later stages of eutrophication the water body is choked by abundant plant life due to higher levels of nutritive compounds such as nitrogen and phosphorus. Human activities can accelerate the process. 2. The increase in the nutrient level of a lake or other body of water, this usually causes an increase in the growth of aquatic animal and plant life.
Evaporative Running Losses	Evaporative emissions which occur when a gasoline-powered motor vehicle is operated on the roadway.
Exhaust Emissions	Tailpipe emissions from vehicles operating in a "warmed up" mode.
Extrapolation	Estimation of unknown values by extending or projecting from known values.
Fossil Fuel	Fuel derived from ancient organic remains, e.g., peat, coal, crude oil, and natural gas

Flue gas	The air coming out of a chimney after combustion in the burner it is venting. It can include nitrogen oxides, carbon oxides, water vapor, sulfur oxides, particles and many chemical pollutants.
Fugitive Emissions	1. Emissions not caught by a capture system. 2. A precombustion process whereby a low-sulfur coal is used in place of a higher sulfur coal in a power plant to reduce sulfur dioxide emissions. 3. Illegally using leaded gasoline in a car designed to use only unleaded.
Fungicide	Pesticide which are used to control, deter or destroy fungi on food or grain crops.
Ground water	1. The supply of fresh water found beneath the Earth's surface usually in aquifers, which supply wells and springs. Because ground water is a major source of drinking water, there is growing concern over contamination from leaching agricultural or industrial pollutants or leaking underground storage tanks. 2. Water found below the surface of the land, usually in porous rock formations. Ground water is the source of water found in wells and springs and is used frequently for drinking.
Hot Soak Emissions	Evaporative emissions which occur when a vehicle is parked after a period of hot running.
Hot Start	An engine start which occurs within a specific period of time after a period of fully "warmed up" running.
Hydrocarbon	Compounds of hydrogen and carbon in various combinations that are present in petroleum products and natural gas. Some hydrocarbons are major pollutants, some may be carcinogenic and others contribute to photochemical smog.
Insecticide	A pesticide compound specifically used to kill or prevent the growth of insects.
Irrigation	Applying water or wastewater to land areas to supply the water and nutrient needs of plants.
Leachate	Water that collects contaminants as it trickles through wastes, pesticides or fertilizers. Leaching may occur in farming areas, feedlots, and landfills, and may result in hazardous substances entering surface water, ground water, or soil.
Leaching	1. The process by which soluble substances are dissolved and transported down through the soil by recharge. 2. The process by which soluble constituents are dissolved and filtered through the soil by a percolating fluid. (see "Leachate").
Lead (Pb)	Is a heavy metal that occurs as a lead oxide aerosol or dust. Lead usually added to gasoline as an additive to increase octane rating.
Maintenance Cost	A method that represents the expenditures incurred to avoid environmental degradation or to eliminate the effects of such degradation after the activity took place.
Methane	A colorless, non-poisonous, flammable gas created by anaerobic decomposition of organic compounds.

Nitrogen (N)	A derivative fertilizer in treated and untreated sewage; as dissolve nitrogen, it is toxic to fish; as ammonia and nitrate, it is a plant nutrient, and thus, can lead to eutrophication.
Nitrate	Plant nutrient and inorganic fertilizer that enters water supply sources from septic systems, animal feed lots, agricultural fertilizers, manure, industrial waste waters, sanitary landfills and garbage dumps.
Nitrite, nitrogen (NO₂-N)	An intermediate in the process of nitrification. 2. Nitrous oxide salts use in food preservation.
Nitrogen	A derivative fertilizer in treated and untreated sewage; as dissolve nitrogen, it is toxic to fish; as ammonia and nitrate, it is a plant nutrient, and thus, can lead to eutrophication.
Nitrogen Oxide (NOx)	1. Product of combustion from transportation and stationary sources and a major contributor to the formation of ozone in the troposphere and to acid deposition. 2. a colorless gas which is produced by fuel combustion such as the burning of gasoline and diesel fuel in automobile engines.
Nutrient	Any substance assimilated by living things that promote growth. The term is generally applied to nitrogen and phosphorous in waste water, but is also applied to other essential and trace elements.
On-site	On the same, or adjacent, property.
Ozone (O₃)	Pungent, colorless, toxic gas that contains three atoms of oxygen in each molecule. It occurs naturally at a concentration of about 0.01 parts per million (ppm) of air. Levels of 0.1 ppm are considered to be toxic. In the stratosphere, ozone provides a protective layer shielding the earth from the harmful effects of ultraviolet radiation on human beings and other biota. In the troposphere, it is a major component of photochemical smog, which seriously affects the human respiratory system.
Particulate Matter	1. A very small solid suspended in water which can vary widely in size, shape, density, and electrical charge. Colloidal and dispersed particulates are artificially gathered together by the processes of coagulation and flocculation. 2. Liquid or solid particles such as dust, smoke, mist, or smog found in air emissions.
Pesticide	Substances intended to repel, kill, or control any species designated a "pest" including weeds, insects, rodents, fungi, bacteria, or other organisms. The family of pesticides includes herbicides, insecticides, rodenticides, fungicides and bactericides.
pH	1. The measure of acidity or alkalinity of a chemical solution, from 0 to 14. Anything neutral, for example, has a pH of 7. Acids have pH less than 7, bases (alkaline) greater than 7.2. An expression of the intensity of the basic or acid condition of a liquid. Mathematically, pH is the logarithm (base 10) of the reciprocal of the hydrogen ion concentration, (H ⁺). The pH may range from 0 to 14, where 0 is most acid, 14 most basic, and 7 neutral.: Natural waters usually have a pH between 6.5 and 8.5.
Phytoplankton	Small, usually microscopic plants (such as algae), found in lakes, reservoirs, and other bodies of water.

PM₁₀	These are the type of particulates with an aerodynamic diameter of 10 microns or less. The major components of PM ₁₀ are dust particles, nitrates and sulfates.
Orthophosphate (PO₄-P)	An element that is essential for growth of microorganisms and is considered to be the major contributor to the eutrophication effect observed in receiving wastes like algal blooms.
Pollution	Any substances in water, soil, or air that degrade the natural quality of the environment, offend the senses of sight, taste, or smell, or cause a health hazard. The usefulness of the natural resource is usually impaired by the presence of pollutants and contaminants.
Pollution Loads	The total pollutants generated at the source; it may also be called as the total <i>mouth-of-pipe</i> pollutants discharges.
Potable Water	Water that is safe and satisfactory for drinking and cooking.
Radionuclide	1. Radioactive particle, man-made or natural, with a distinct atomic weight number. Can have a long life as soil or water pollutants. 2. Any man-made or natural element which emits radiation in the form of alpha or beta particles, or as gamma rays.
Running Exhaust Emissions	Tailpipe emissions from vehicle operating in the roadway.
Settleable Solids	Terms applied to the material settling out of suspension within a definite period.
Scrubber	An air pollution device that uses a spray of water or reactant or a dry process to trap pollutants in emissions.
Sludge	1. A semi-solid residue from any of a number of air or water treatment processes; can be a hazardous waste. 2. The watery mixture of insoluble matter resulting from some pollution control techniques.
Slurry	1. Watery mixture of insoluble matter resulting from some pollution control techniques. 2. A watery mixture or suspension of insoluble (not dissolved) matters; a thin water mud or any substance resembling it (such as grit slurry or a lime slurry). 3. A pumpable mixture of solids and fluid.
Solid Waste	Non-liquid, non-soluble materials ranging from municipal garbage to industrial wastes that contain complex and sometimes hazardous substances. Solid wastes also include sewage sludge, agricultural refuse, demolition wastes, and mining residues. Technically, solid waste also refers to liquids and gases in containers.
Sulfur Dioxide (SO₂)	A pungent, colorless, gaseous pollutant formed primarily by the combustion of fossil fuels.
Sulfur Oxide (SO_x):	Sulfur Oxide is a gaseous emission primarily composed of sulfur dioxide and sulfur trioxide. It is produced from the combustion of fuels containing sulfur, such as coal, fuel oil and diesel.
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.

Suspended Solids (SS)	1. Settle to the bottom of water bodies or washed up on the banks and accelerate the normal rate of filling in the waterways; solids that do not settle reduce water's transparency, sunlight penetration and biological activity; also clog animal and plant surface. 2. Small particles of solid pollutants that float on the surface of, or are suspended in, sewage or other liquids. They resist removal by conventional means.
Tailings	Residue of raw material or waste separated out during the processing of crops or mineral ores.
Total Dissolved Solids (TDS)	Consist of both organic and inorganic dissolved solids; the latter include, among others, chloride, phosphates, nitrates and other metals; these are considered less polluting than organic solids which are usually oxidized rapidly by microorganisms in the receiving streams resulting in the loss of DO and the accompanying ill-effects of deoxygenated water.
Total Suspended Solids (TSS)	1. Objectionable in wastes for varied reasons; minerals and organic suspended matters can lead to silting and by blanketing the river bed, can cause destruction of plant and animal life and render the areas unsuitable for spawning; gritty materials can also cause physical injury to fish; greatly affected by climatic condition and partly by the amount of pollution taking place. 2. A measure of the suspended solids in wastewater, effluent, or water bodies, determined by tests for "total suspended non-filterable solids" (see solid suspended solids).
Uncontrolled Pollutant Discharges	The total <i>end-of-pipe</i> pollutants discharges less environmentally assimilated pollutant discharges.
Volatile Organic Compound (VOC)	1. Any organic compound which evaporates readily to the atmosphere. Contributes significantly to photochemical smog production and certain health problems. 2. Results from vaporation in tanks and incomplete combustion in automobile engines and industrial boilers. Is sometimes referred to as TOG (Total Organic Compound).
Wastewater	1. The spent or used water from home, community, farm, or industry that contains dissolved or suspended matter. 2. The used water and solids from a community (including used water from industrial processes) that flow to a treatment plant. Storm water, surface water, and groundwater infiltration also may be included in the wastewater that enters a wastewater treatment plant. The term sewage usually refers to households wastes by this word is being replaced by the term wastewater.