

GLOSSARY

Activity/event variables: Variables that provide information on the characteristics of a particular activity or event that originates from a resource. The activity/event could have both positive and negative impacts on environmental resources. An activity that is part of the overall process of economic development may have a positive impact on the economy, but a negative impact on a particular resource such as land or water. An activity can also be a response intended to mitigate the adverse impacts of development or natural disasters.

Air quality criteria: Quantitative criteria indicating levels of pollution and lengths of human exposure which, if exceeded, may have adverse effects on health and welfare.

Ambient air: The portion of the atmosphere, external to buildings, to which the general public has access.

Aquifer: (i) An underground bed or layer of earth, gravel, or porous stone that contains water; (ii) a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

Biochemical oxygen demand (BOD): The dissolved oxygen required to decompose biodegradable organic matter in water. This is a measure of organic pollution because heavy waste loads have a high demand for oxygen.

Biota: All living organisms that exist in an area.

Boundary stations: Stations making up part of a water monitoring network and are intended to describe fluxes, either between legal

boundaries or between submedia (from a river to a lake or ocean, or from a surface stream to groundwater).

Carbonaceous matter: Pure carbon or carbon compounds present in the fuel or residue of a combustion process.

Chemical oxygen demand (COD): A measure of oxygen required to oxidize all compounds (organic or inorganic) in water.

Coliform index: A rating of the purity of water based on a count of fecal bacteria.

Composite sample: A sample of water that is a mixture of grab samples of equal or weighted volume, all collected at the same location at different points of time. Also known as a time composite, these samples are useful for assessing the average concentration or load of pollutants.

Dissolved oxygen (DO): A measure of the amount of oxygen available for biochemical activity in a given amount of water. Adequate levels of DO are needed to support aquatic life. Low concentrations can result from inadequate waste treatment.

Effluent: Waste material discharged into the environment, treated or untreated. Generally, the term refers to liquid waste/wastewater.

Emission factor: Refers to a particular source of emissions and is generally expressed as the quantity of gas released into the atmosphere per unit of activity. An activity can refer to travel distances for motor vehicles sources (or, alternatively, fuel consumption), or to a production level for an industry. Emissions from a source are computed as the product of its activity level and the corresponding emission factor.

Emissions or discharges to water: Emissions to water include all discharges of biodegradable substances or other substances soluble in water; discharges mixing with the water or influencing the biophysical

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or chemical quality of the water. Heavy metals and hazardous wastes are included, together with oily wastes, floating debris, silt, and other suspended matter.

Environmental indicator: A parameter, or value derived from a parameter, which yields information about an environmental phenomenon or event. Environmental indicators usually have a significance that extends beyond that directly associated with a parameter value.

Estuaries: Areas where freshwater meets saltwater (bays, mouths of rivers, salt marshes, lagoons). These brackish water ecosystems shelter and feed marine life, birds, and wildlife.

Eutrophication: The enrichment of water by nutrients (especially nitrogen and phosphorus compounds, but also organic matter). The result is an accelerated growth of algae and higher forms of plant life, which upsets the balance of organisms present in the water and jeopardizes the quality of the water.

Fecal coliform bacteria: Organisms associated with the intestines of warm-blooded animals and commonly used to indicate the presence of fecal material and the potential presence of organisms capable of causing human disease.

Flue: Any passage designed to carry combustion gases and entrained particulates.

Framework: A statistical framework for environment statistics is needed at a very early stage in the work. The framework can be any practical means of structuring and managing environmental information, and a number of options exist. It represents a simplification of the real world and is an integral part of the overall methodology. Essentially, the framework is a theory or model that helps the statistician to organize the data. Different versions may be employed in the same exercise, depending on the subject matter and the data requirements.

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Grab sample: A discrete sample of water collected at a specific location, depth, and time. Such a sample may also be “depth-integrated,” which means that it is collected over the entire depth of the water column at a specific location and time.

Heavy metals: Metallic elements such as mercury, chromium, cadmium, arsenic, and lead, with high molecular weights. At low concentrations these metals can damage living organisms through accumulation in the food chain.

Hydrology: The science dealing with the properties, distribution, and circulation of water.

Indicators of environmental conditions: Indicators used in the PSR framework to measure the state or quality of the environment.

Indicators of environmental pressures: Designed to measure pressure in the PSR framework, these indicators address the effects of human activities on the environment.

Inorganic matter: Chemical substances of mineral origin, not containing carbon-to-carbon bonding. Generally structured through ionic bonding.

Internal renewable water resources: Usually stated in annual terms, this expression is defined as the sum of the annual average freshwater flow of rivers and the groundwater produced from rainfall within the country’s borders.

Mercaptans: Odorous, gaseous compounds that are offensive at low concentrations, and toxic at high concentrations. Mercaptans are produced by geothermal sources and certain industrial processes.

Mixing height: The expanse in which the air rises from the earth and mixes with the air above it until it meets air that is equal or warmer in temperature.

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Nitrogen oxides: Gases formed mainly from atmospheric nitrogen and oxygen when combustion takes place under conditions of high temperature and pressure. Nitrogen oxides include nitric oxide (NO) and nitrogen dioxide (NO₂), both of which are harmful gases.

Nonconservative samples: Samples of a parameter for which the values can change in the time between collection and analysis in the laboratory.

Nonpoint (diffuse)sources: Causes of water pollution that are not associated with point sources. Examples include (i) pollution related to agricultural activities such as runoff from manure disposal and from land used for livestock and crop production; (ii) mine-related sources of pollution including new, current, and abandoned surface and underground mine runoff; (iii) pollution related to construction activities; (iv) pollution from waste disposal on land, in wells, or in subsurface excavations that affect groundwater and surface water quality; (v) saltwater intrusion into freshwater flow from any cause.

Oxide: A compound of two elements, one of which is oxygen.

Ozone (O₃): A pungent, colorless, toxic gas that contributes to photochemical smog.

Parameter: A property that is measured or observed.

Particulates: Fine liquid or solid particles such as dust smoke, mist, fumes, or smog, found in the air or emissions.

Point source: A stationary location where pollutants are discharged, usually by an industrial establishment. A point source is any discrete conveyance such as a pipe, ditch, channel tunnel, conduit, well, container, or concentrated animal feeding operation from which pollutants are discharged.

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Rate variables: Variables that represent the flow from or into the stock of a resource—for example, the rate of conversion of forestlands to agricultural purposes, expressed as a percentage of total forestland.

Reagents: Chemicals used for laboratory analysis and testing. These could be acids (for example, sulfuric acid, nitric acid, or hydrochloric acid), alkali (such as sodium hydroxide, calcium hydroxide, or potassium hydroxide), or any other chemical compound formed by reacting more than one chemical.

Receiving waters: Any body of water where treated or untreated wastes are dumped.

Reference stations: Monitoring stations designed to provide background information on the natural quality of air or water. Reference stations are an integral part of a basic monitoring network. They are also known as benchmark stations.

Response indicators: Indicators that measure the result of individual or collective actions to mitigate, adapt, or prevent the negative impacts of human actions on the environment, or efforts to halt or reverse damage already inflicted.

Runoff: That portion of precipitation that flows over the ground surface and returns to streams. Runoffs can collect pollutants from the air or land and carry them to receiving waters.

Sedimentation: The process of letting suspended solids settle out of wastewater by gravity during wastewater treatment.

Silviculture: Management of forestland for timber. Silviculture sometimes contributes to water pollution owing to clear-cutting.

State variables: Variables that reflect the quality of a resource in terms of its potential uses, whether these uses occur off-site or in situ. An

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assessment of the quality or state of the resource could be made either by comparing these statistics to a norm or by monitoring trends.

Stock variables: Variables that provide information on the quantity of a resource. The stock may rise or fall as a result of an activity or event, and the trend in stock value provides an indication of a resource's future availability.

Suspended solids: Tiny particles of solids dispersed but undissolved in a solid, liquid, or gas. Suspended solids in sewage cloud the water and require special treatment to remove.

Topography: Physical features of a surface area including relative elevations and the position of natural and human-made features.

Volatile organic compound: Any compound containing carbon and hydrogen or containing carbon and hydrogen in combination with any other element which has a vapor pressure of 1.5 pounds per square inch absolute (77.6 mm. Hg) or greater under actual storage conditions.