

GLOSSARY

Acidification

Continuing loss of capacity to neutralise acid inputs indicated by declining alkalinity and increasing hydrogen ion concentration (i.e. the decrease in pH of water or soil resulting from increases in acidic anion inputs such as sulphate).

Afforestation

Establishment of a new forest by planting of non-forested land.

Algae

Simple aquatic plants that may be attached or free floating (planktonic) and occur as single cells, colonies, branched and unbranched filaments.

Algal Bloom

Dense growth of planktonic algae or most commonly Cyanobacteria (blue-green bacteria formerly classified as algae) in nutrient-enriched lakes causing discoloration of the water.

Allergen

Substance capable of inducing an allergic reaction.

Ammonia (NH₃)

A simple compound of nitrogen primarily originating in waste discharges. It can be toxic to fish under certain circumstances and is a source of nitrogen for plants and algae.

Anoxic Condition

The complete absence of oxygen.

Anthropogenic

Produced as a result of human activities.

Aquaculture

The farming of aquatic species such as fish and shellfish under controlled conditions.

Aquifer

A rock unit that will yield water in a usable quantity to a well or spring. A geological formation through which water can percolate, sometimes very slowly for long distances.

Assessment Threshold

Level defined by legislation that is used to classify air quality for the purpose of determining the monitoring needed.

Attenuation

The reduction in magnitude/intensity/concentration of a substance dispersed in a gaseous or liquid medium.

Benthic Organism (benthos)

An organism that lives on or near the bottom of a river, lake or ocean.

Benzene

Carcinogenic volatile organic compound which is a component of unleaded petrol.

Bioaccumulative Substance

A substance that builds up in tissue of living organisms as a result of direct exposure to polluted water, air or soil, or through consumption of contaminated food.

Biochemical Oxygen Demand (BOD)

A measure of the potential oxygen consumption of decaying organic matter in water. It is a widely used measure of organic pollution in rivers and in effluents discharged to water.

Biodegradable Municipal Waste

Biodegradable municipal waste is municipal waste (see definition below) that can undergo biological decomposition. It is typically composed of food and garden waste, wood, paper, cardboard and textiles.

Biodiversity

Word commonly used for biological diversity and defined as assemblage of living organisms from all habitats including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part.

Biomagnification

The increase in a substance, such as an organic chemical, as it passes up the food chain from one trophic level to the next.

Biomass

The weight of biological matter. Standing crop is the amount of biomass (e.g. algae) in a waterbody.

Biota

The flora and fauna of an area.

Biotoxins

Substances produced by certain organisms that are toxic or otherwise injurious to other organisms.

Bituminous Coal

Type of coal that typically has a medium to high sulphur content.

Black Smoke

The fraction of total suspended particulates in air determined from the blackness measurement of the stain produced by passing the air through standard filter paper.

Blanket Bog

An area, often very extensive, of acid peatland, found in constantly wet climates, characteristic of broad flat upland areas, which develops where drainage is impeded and the soil is acid.

Bonamiasis

A disease that affects native oysters (*Ostrea edulis*) caused by infection by the parasite *Bonamia ostreae*.

Boreal Species

Species generally found in the cold temperate regions to the north of Ireland (but sub-arctic).

Carbon Dioxide (CO₂)

A naturally occurring gas which is also a by-product of burning fossil fuels and biomass, land-use changes and industrial processes. It is the principal anthropogenic greenhouse gas that affects the earth's radiative balance. It is the reference gas against which other greenhouse gases are measured and therefore has a Global Warming Potential of 1.

Carbon Monoxide (CO)

Colourless gas emitted by road traffic.

Carbon Sequestration

The uptake of carbon-containing substances, in particular carbon dioxide.

Carcinogen

A substance that causes or is believed to cause cancer in humans.

Cetacean

A marine mammal belonging to the taxonomic order Cetacea, which includes all whales, dolphins and porpoises.

Chemotherapeutics

Specific chemicals such as antibiotics that are used to treat disease.

Chlorophyll

The green pigment found in algae and higher plants which is involved in photosynthesis.

Commercial Waste

The waste that is produced from a number of diverse sources, including shops, offices and commercial premises, and consists of materials such as paper and cardboard, plastics, organics and glass.

Construction and Demolition (C&D) Waste

All waste that arises from construction, renovation and demolition activities and all wastes mentioned in Chapter 17 of the European Waste Catalogue (EWC).

Coral Reef

A reef formed by the growth of coral, which is the hard calcareous substance secreted by marine animals (polyps) for support and habitation.

Cryptosporidium

A coccidian protozoan parasite that infects vertebrates such as sheep and cattle. It can infect humans and is a particularly dangerous parasite when its oocysts enter public water supply systems due to, for example, cattle slurry contamination.

Daughter Directive

EU directive associated with a parent 'framework directive'. For air, the framework directive sets out the general approach and the daughter directive specifies the limit values for each pollutant.

Deforestation

The removal of trees in an area.

Demersal Fish

Fish such as cod, whiting, plaice, haddock, skates and rays that spend most of their time swimming near the seabed. The term usually refers to the adult stage of the species.

Diffuse Source Pollution

Pollution that arises from diffuse areas in a catchment such as fields adjacent to a river or stream during heavy rainfall when surface runoff occurs.

Dioxins

A collective name given to a group of 75 closely related chemical compounds known as polychlorinated dibenzodioxins (PCDDs). Dioxins can form during combustion of organic materials containing chlorine, as undesirable by-products during chemical manufacture and bleaching operations.

Dissolved Oxygen (DO)

A measure of the concentration of oxygen in a liquid, such as water or waste water, usually expressed in mg/l or percentage saturation.

Ecology

The study of the relationship among organisms and between those organisms and their non-living environment.

Ecosystem

A community of interdependent organisms together with the environment they inhabit and with which they interact, and which is distinct from adjacent communities and environments.

Effluent

Liquid wastes.

Enteric Fermentation

Fermentation that takes place in the digestive systems of ruminant animals such as cattle and sheep.

Eutrophic

From the Greek for 'well nourished'. Applied to waterbodies with high nutrient concentrations leading to large algal standing crops.

Eutrophication

The enrichment of water by nutrients, especially compounds of nitrogen and/or phosphorus, causing an accelerated growth of algae and higher forms of plant life to produce an undesirable disturbance to the balance of organisms present in the water and to the quality of the water concerned.

Faecal Coliforms

Harmless bacteria which serve as indicators of the presence of human and animal faeces in waters.

Fen

An area of waterlogged peat, which, unlike bog, is alkaline or only slightly acid.

Fouling

In an aquatic context, fouling is the growth of microbial, plant or animal life on the hulls of boats and on piers, platforms and other structures, which leads to increased resistance to water flow and increased susceptibility to corrosion and damage.

Geographical Information System (GIS)

A set of integrated techniques for storing, retrieving, transforming and displaying spatially referenced thematic data in map form.

Geological

Relating to the origins and structure, composition etc. of the earth (and other planets), especially its rocks.

Geomorphology

The study of the form and development of the earth, and especially of its surface and physical features, and of the relationship between these features and the geological structures beneath.

Greenhouse Gases

Gaseous constituents of the atmosphere that absorb/trap infrared (thermal) radiation which is mainly emitted by the earth's surface and thereby influence the earth's temperature.

Groundwater

Water that occupies pores and crevices in rock and soil, below the surface and above a layer of impermeable material.

Habitat

The dwelling place of a species or community, providing a particular set of environmental conditions (e.g. forest floor, sea shore).

Hazardous Waste

Waste displaying properties that make it hazardous to human health or the environment.

HCFCs (Hydrochloro-fluorocarbons)

Compounds which have been substituted for CFCs as the latter become phased out by international agreement.

Heath

An area of open uncultivated land, typically an acid soil with characteristic vegetation of heather, gorse and coarse grasses.

Household Waste

Waste produced within the curtilage of a building or self-contained part of a building used for living accommodation.

Hypertrophic

Applies to water bodies that are excessively nourished and extremely productive.

Hypoxic Condition

Having a low level of oxygen.

Industrial Waste

Waste produced by industrial activity such as that of factories, mills and mines.

Inert Waste

Waste that does not normally undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in any way likely to give rise to environmental pollution or to harm human health.

Invertebrates

Animals that do not possess a backbone.

Karst

An area of limestone or other highly soluble rock, in which the landforms are of dominantly solutional origin, and in which the drainage is usually underground in solutionally enlarged fissures and conduits.

Karstification

The processes of solution and infiltration by water, mainly chemical but also mechanical, whereby the surface features and subterranean drainage network of a karstland are developed to form a karst topography, including such surface features as dolines, karren, and mogotes and such subsurface features as caves and shafts.

Kyoto Protocol

The 1997 protocol to the Convention on Climate Change under which industrialised countries will reduce their combined greenhouse gas emissions by at least 5 per cent compared to 1990 levels by 2008–2012.

Limit Value

A level fixed on the basis of scientific knowledge, with the aim of avoiding, preventing or reducing harmful effects on human health and/or the environment as a whole, to be attained within a given period and not to be exceeded once attained.

Machair

Complex habitat composed of a sandy coastal plain resulting partially from grazing and/or rotational cultivation, in an oceanic location with a cool, moist climate.

Macroinvertebrates

Larger invertebrates, e.g. worms, snails and insects.

Macrophytes

Large plants which in water include rooted and floating species.

Maërl

Calcareous red algae.

Mechanical Biological Treatment (MBT)

Combines mechanical processes (to separate out recyclable materials such as glass and metals, combustible materials and biodegradable materials) and biological processes (to drive out moisture and biostabilise the organic-rich fraction of the mechanically treated waste).

Mesotrophic

Applied to water bodies that are moderately nourished, moderately productive.

Microsievert

Unit of measurement for the potential risk to health from the interaction of ionising radiation with the human body.

Monoculture

In forestry terms, even-aged, single-species forest crops.

Morphological Pressures

Physical disturbances of water such as impoundments and other water regulation structures.

Municipal Waste

Comprises household waste as well as commercial, industrial and street cleansing waste, which because of its nature and composition is similar to household waste.

Nitrate (NO₃)

A salt of nitric acid (HNO₃).

Nitrogen Oxides (NO_x)

A gas that usually includes the pollutants nitric oxide (NO) and nitrogen dioxide (NO₂), produced by high-temperature combustion and some natural processes.

Nutrient

Element or chemical essential for growth, e.g. phosphorus, nitrogen, silica, oxygen, carbon.

Oligotrophic

Term applied to water bodies that are poorly nourished, unproductive.

Ozone (O₃)

A secondary pollutant in which the molecule of oxygen consists of three atoms rather than the more usual two.

Ozone Precursor

A substance that contributes to the formation of ground-level (tropospheric) ozone.

Particulate Matter

Air pollutant comprising fine solid particles (dust) and liquid droplets.

Pathogens

Biologically hazardous organisms such as viruses, bacteria or parasites that may give rise to illness in humans or animals.

Peatbog

Peatland with water table at or near the surface; includes both upland and lowland bogs and a variety of vegetation cover from heath dominated to moor-sedge dominated.

Pelagic Fish

Fish such as herring, mackerel and blue whiting that spend most of their time swimming in the water column as opposed to resting on the seabed. Usually refers to the adult stage of the species.

Pesticide

A general term for any chemical agent used to kill unwanted plants ('weeds'), animal pests, or disease-causing fungi.

pH

The measure of the acidity or alkalinity of a substance.

Phosphate (PO₄)

The commonly occurring form of phosphorus taken up by plants in the aquatic environment and essential for their growth.

Phytobenthos

Microscopic plants, including diatoms, living on the surface layer of bed of streams, rivers, lakes, estuaries or seas.

Phytoplankton

Microscopic small plants that float or swim weakly in freshwater or salt water bodies.

Plankton

Organisms suspended in water by currents, the presence of air sacs or their own swimming movements. 'Phytoplankton' refers to microscopic plants; 'zooplankton' refers to microscopic animals.

PM₁₀

Particulate matter measuring less than 10 µm in diameter.

PM_{2.5}

Particulate matter measuring less than 2.5 µm in diameter.

Point Source Pollution

Pollution that arises from a well-defined point, typically the end of a discharge pipe, but may include farmyard sources.

Polycyclic or Polynuclear Aromatic Hydrocarbons (PAHs)

Complex organic molecules found in soot, tar, vehicle exhausts and combustion products of fuels.

Precipitation

The manner by which water and other matter in the atmosphere reach the earth's surface. Wet precipitation includes rainfall, snow, hail, mist and fog. Dry precipitation describes the deposition of gases, aerosols and particles not dissolved in atmospheric borne water.

Radionuclide

An unstable form of a chemical element that radioactively decays, resulting in the emission of radiation.

Raised Bog

An area of ombrogenous (i.e. originating as a result of wet climates) acid peatland with a convex profile.

Reforestation

Replanting of forests on lands that have recently been harvested.

Renewable Resource

A resource that can be exploited without depletion because it is constantly replenished, e.g. solar radiation and wind.

River Basin District

A river basin/catchment is an area of land from which all surface run-off flows through a series of streams, rivers and possibly lakes into the sea at a single river mouth or estuary. A River Basin District comprises one or more neighbouring river basins together with their associated wetlands, groundwaters and coastal waters.

Salinisation

The accumulation of water-soluble salts in the soil. Salinisation causes deterioration or loss of one or more soil functions.

Salt Marsh

An area of coastal grassland that is regularly flooded by seawater.

Secondary Pollutant

A pollutant not directly emitted but formed from the reaction of other pollutants.

Stratosphere

Layer of the atmosphere between approximately 10 km and 50 km above the surface of the earth.

Sulphur Dioxide (SO₂)

A colourless gas produced mainly by oxidation of the sulphur in fossil fuels through combustion.

Sustainable Development

Defined by the Brundtland Commission (1987) as 'development that meets the needs of the present without compromising the ability of the future generations to meet their own needs'.

Synthetic Pyrethroids

Synthesised derivatives of naturally occurring pyrethrins (found in chrysanthemum flowers), which are used as insecticides for the control of pests in agriculture (e.g. control of blowfly maggots in sheep), homes, hospitals, schools etc.

Taxon

A taxon (plural taxa), or taxonomic unit, is a name designating an organism or a group of organisms.

Total Allowable Catch (TAC)

The TAC is the total catch allowed to be taken from a resource in a specified period (usually a year), as defined in the management plan. The TAC may be allocated to the stakeholders in the form of quotas, as specific quantities or proportions.

Toxic Equivalent (TEQ)

The weighted toxicity of of a compound expressed in terms of the toxicity of a mixture of dioxin congeners, using a WHO convention.

Transboundary Pollution

Pollution emitted in one country and transported naturally to other countries.

Transition Mire

Vegetation that in floristic composition and general ecological characteristics is transitional between acid bog and alkaline fens, in which the surface conditions range from markedly acidic to slightly base-rich.

Trophic Status

The extent of enrichment of a waterbody as assessed by the nutrient concentrations, amount of planktonic algae and macrophytes, water transparency and oxygen levels. The trophic categories oligotrophic, mesotrophic, eutrophic and hypertrophic are used to describe waters varying from unenriched to highly enriched.

Troposphere

The lowest layer of the atmosphere, extending from the surface of the earth to 12–15 km above the earth.

Turbary

The right of private individuals to cut turf for domestic purposes.

Turlough

A temporary water body on carboniferous limestone.

UV Radiation

Ultraviolet radiation, with wavelength between 4 and 380 nm.

Volatile Organic Compounds (VOCs)

Organic compounds that evaporate readily and contribute to air pollution mainly through the production of secondary pollutants such as ozone.

Waste Arisings

A measure of the amount of waste generated by a specified sector or activity.

Wetland

An area covered permanently, occasionally, or periodically by fresh or salt water (e.g. flooded pasture land, marshland, inland lakes, rivers and their estuaries); also includes bogs.