



Aboriginal heritage places: Landscapes, sites and areas that are particularly important to Aboriginal people as part of their customary law, developing traditions, history and current practices.

Acidification: A reduction in pH, representing in a gain in acidic material or a reduction of basic material.

Acid mine drainage: Typically a consequence of mining. Lowering or pumping of groundwater results in the oxidation of sulphide-bearing rocks. Upon rewetting acid is leached from the rocks and soil.

Acid sulfate soil: The common name given to sulphide-containing soils or rocks that, when disturbed, have the potential to produce acid.

Aerodynamic: Forces acting upon any solid or liquid body moving relative to a gas (especially air).

Aerosol: Particles of solid or liquid materials that can remain suspended in the air because of their small size.

Airshed: A volume of air confined to a distinct geographic region, and within which pollutants are contained.

Air toxics: Gaseous, aerosol or particulate pollutants which are present in the air at low concentrations and have characteristics such as toxicity or persistence, so as to be a hazard to human, plant or animal life.

Ambient: The background or surrounding conditions occurring in the environment.

Amenity: A concept encompassing the natural or man-made qualities of the environment from which pleasure, enrichment and satisfaction are derived.

Anthropogenic: Produced or caused by human activity.

Aquifer: Porous soil or geological formation capable of being permeated by water and which stores and allows movement of groundwater.

Assemblages: Recognisable groupings or collections of individuals or populations of organisms.

Atoms: The smallest type of particles that make up physical matter.

Ballast water: adds weight to ships to increase stability during loading, transit and unloading.

Baseline: A starting or reference point, such as collecting baseline data where no data has been collected previously.

Benthic: Pertaining to the substrate (and/or organisms) at, or associated with, the bottom of a water body.

Bioaccumulation: The process by which chemicals are taken up from the environment by organisms and concentrated in their tissues.

Biodiversity: the variability within and among genes, species and ecosystems. It includes marine, terrestrial, subterranean and aquatic life and implies a highly complex system of interacting entities that occur over a range of temporal and geographic (from local to global) scales.

Biogeochemical: The chemical interactions between organic matter and geological material.

Biological indicators: Living organisms that are assessed and used to measure ecosystem health.

Biomass: The total mass of living matter in a specific area.

Bioregion: Marine and terrestrial regions defined by similar types of physical, biological and environmental attributes.

Biota: All living things present in an area.

By-catch: The part of the fishing catch that is not the target species and which is discarded or excluded.

Cogeneration: The combined generation of electricity and heat energy for industrial purposes.

Comprehensiveness: The extent to which all relevant place types have been included at an appropriate scale and the extent to which all place types have been included.

Conservation: The protection, maintenance, management, sustainable use, restoration and enhancement of the natural environment.

Conservation park: An area set aside for wildlife and landscape conservation, scientific study, preservation of features of archaeological, historic or scientific interest, and enjoyment by the public. Distinguished from a national park by not having the same national or international significance

Conservation reserve system/Conservation estate: Those parts of the environment that are formally reserved for conservation of native species and ecosystems and recreation.

Cryptogenic: Of obscure or unknown origin.

Cultural landscapes: Places that illustrate how human society and settlements have evolved within the natural landscape.

Dampland: A type of wetland in which soils are seasonally waterlogged.

Denitrification: The chemical or microbial conversion of soil nitrate or nitrite to gaseous nitrogen or an oxide of nitrogen.

Density codes: A provision of the residential design codes that specify the minimum site area per dwelling.

Dispersive: Subject to spreading out by diffusion.

Dredging and dumping: Excavation of sediments from an area to make the water deeper (to allow passage of ships) or as part of an extractive process.

Eco-efficiency: The production of goods or services using fewer natural resources, and reducing the environmental impacts through the life cycle of the product or service.

Ecological footprint: A measure of the land area required to produce the resources consumed, and absorb the wastes produced, by a population.

Ecosystems: Communities of organisms interacting with one another and their non-living environment. Incorporates the physical, chemical and biological processes inherent in that interaction and the environment in which they live.

Ecosystem services: The processes by which the environment produces resources which provide benefits to humans, e.g. flood and disease control, clean air, waste recycling, plant pollination.

El Niño-Southern Oscillation (ENSO): A sustained period of warming over the Pacific Ocean associated with a shift in surface pressure which leads to global climatic effects. The opposite of an El Niño event is a La Niña.

Endemic: Species unique or confined to a specific locality.

Energy intensity: The energy cost in relation to the value of goods and services produced within an economy, often expressed in terms of energy use per value of output, e.g. petajoules per \$billion gross state product.

Enhanced greenhouse effect: An increase in the surface temperature of the Earth, due to an increase in atmospheric greenhouse gas concentrations resulting from human activity.

Environmental indicator: Physical, chemical, biological or socio-economic measures that can be used to assess natural resources and environmental quality.

Environmental management system: Part of an overall management system that includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy.

Environmental value: Any particular value or use of the environment that is important for a healthy ecosystem or for public benefit, welfare, safety or health and which requires protection from pollution and inappropriate resource management practices.

Eutrophication: Process whereby a water body becomes enriched with nutrients (mainly phosphorus and nitrogen), stimulating excessive growth of aquatic flora and/or fauna.

Evapotranspiration: The combined loss of water by evaporation from a water body or soil and water evaporating from the leaves of plants (transpiration).

Exceedence: Occasion on which a measured factor (e.g. atmospheric emissions) is greater than a limit, goal or standard.

Exclusive Economic Zone: The area of ocean between 12 and 200 nautical miles off shore, over which Australia has jurisdiction.

Fauna: A collective term for animal life.

Fossil fuels: Fossilised remains of organisms found in the Earth, with high carbon and/or hydrogen contents, which are used as fuels, especially coal, oil, and natural gas.

Geochemical: Pertaining to chemical elements in the minerals, soils, ores, rocks, water and atmosphere of the Earth and the distribution and movement of these elements from one place to another as a result of their chemical and physical properties.

Geoheritage: Areas that contain distinct geological features that are scientifically valuable and of importance to understanding the Earth.

Geomorphological: Relating to the Earth's form, especially the surface and physical features, and the relationship of these to the geological structures beneath.

Geosequestration: Long-term underground storage of carbon dioxide.

Gondwana (Gondwanaland): The southern super-continent which broke apart about 150 million years ago: consisted of what is now South America, Africa, Australia, Antarctica, India and New Zealand.

Greenhouse effect: The natural warming of the Earth's atmosphere as a consequence of the concentration of certain gases which retard the escape of heat radiation to space.

Greenhouse gas emissions: Emissions of particular gases (eg. carbon dioxide, methane, nitrous oxide) which enhance the Earth's natural greenhouse effect. These are mostly emitted from combustion of fossil fuels and by animal respiration.

Greenhouse offsets: Activities undertaken to negate the effects of greenhouse gas emissions.

Gross residential density: The number of dwellings within a defined area, including residential and non-residential zones, the latter including roads, open space, schools and other local and regional uses. It is expressed as the number of units 'per gross hectare'.

Groundwater management area: A collection of groundwater management units defined by State agencies that allows for effective management of the groundwater resource.

Groundwater management unit: A groundwater site defined by State agencies where groundwater allocation limits have been set.

Habitat: A specific type of place within an ecosystem occupied by an organism, population or community that contains all the requirements to support their life cycles.

Heritage places: Regions, landscapes, areas, features or buildings that have natural and/or cultural heritage significance for the present community as well as for future generations.

Historic heritage places: Places that date from European exploration and settlement. They include buildings, structures and gardens which demonstrate physical characteristics or other associations with important events, developments or cultural phases in the State's history.

Human settlements: The places where people live, work and recreate. They include cities, regional towns and a range of remote rural settlements.

Hydrogeological: Pertaining to groundwater and geological characteristics, especially in relation to the distribution of aquifers, groundwater flow and groundwater quality.

Hydrologic cycle: The cycle through which water passes through water bodies, living organisms, on and in the land, and through the atmosphere.

Hydrologic regime: Water movement in a given area.

Hydrophobic: Water repelling.

Imposex: An interruption of the hormonal condition in female molluscs which results in an hermaphrodite condition as a consequence of tributyltin contamination.

Indigenous Protected Area: An area of land in relation to which traditional Aboriginal owners have entered into a voluntary agreement with government for the purposes of promoting biodiversity and cultural resource conservation.

Inhalable particles: Particles small enough to pass through the lungs into the blood stream.

Integrated fisheries management: How fish resources can be best shared between competing uses within the broad context of ecologically sustainable development.

Invertebrate: Relating to animals without backbones.

Karst: Geological features typified by the effects of solution of rocks by water, including sink holes, underground rivers and caverns. Rock types most likely to be involved are limestone, dolomite, gypsum and salt beds.

Kinetic: The motion of material bodies and the forces and energy associated with it.

Kwongan vegetation: The type of vegetation found on relatively dry infertile sandplains.

Landtype: Unit on the Earth's surface of a characteristic geomorphic surface type and a particular composition, identifiable on a scale of hectares.

Macrophyte: A plant that can be seen without magnification; a term usually used in relation to aquatic plants.

Mariculture: Aquaculture of marine plants and animals in brackish and coastal marine areas.

Marine management area: A formal integrated management framework for waters that have high conservation value and intensive multiple uses. These areas are selected primarily on the basis of their biological and recreational values.

Marine nature reserve: Areas delineated for conservation and scientific research, although low-impact tourism may be permitted. No recreational or commercial fishing, aquaculture, pearling, petroleum drilling or production is allowed in these areas.

Marine park: Areas delineated to protect natural features and aesthetic values while at the same time enabling sustainable recreational and commercial use where these activities do not compromise conservation values.

Marine region: An area of marine or coastal habitat that has been defined by the Interim Marine and Coastal Regionalisation for Australia.

Maximum carrying capacity: The maximum stocking rate for an area that does not cause excessive levels of environmental degradation.

Metropolitan Region Scheme: The town planning scheme for land use in the Perth metropolitan area, which stretches from south of Rockingham to north of Yanchep to east of Mundaring.

Minimal tillage: A conservative agricultural technique to minimise soil disturbance, usually at the time of sowing.

Molecule: An aggregate of two or more atoms forming a chemical substance.

Mosaic pattern: A spatial arrangement of vegetation composed of burned areas of varying intensities and frequencies, interspersed with unburned areas.

National park: An area of land set aside for wildlife and landscape conservation, scientific study, preservation of features of archaeological, historic or scientific interest, and enjoyment by the public: of national or international significance for scenic, cultural or biological values.

National Vegetation Information System: A uniform system of classifying and describing vegetation for mapping and comparison within and between states and territories.

Native forest: An indigenous forest community containing the full range of native species and habitats normally associated with that community, or having the potential to develop these characteristics.

Natural capital: An extension of the economic notion of capital (manufactured means of production) to environmental 'goods and services'. It refers to the stocks (e.g. a forest) which produce a flow of goods (e.g. new trees) and services (e.g. carbon sequestration, oxygen production, erosion control, habitat).

Natural heritage places: Areas that are valued for their natural (biological and physical features) and intrinsic values (e.g. aesthetic, life support or scientific).

Natural resource management: The management of natural resources in an integrated fashion, recognising the environmental values of both conservation and productive use of natural resources and working to achieve sustainability in all resource use.

Nature reserve: An area set aside for wildlife and landscape conservation, scientific study and preservation of features of archaeological, historic or scientific interest. Recreation that does not harm natural ecosystems is allowed.

Net residential density: The number of dwelling units on the residential-zoned portion of a defined area. It is expressed in units of 'per net hectare'.

Niche: The role played by an organism within an ecosystem.

Nitrification: The process of oxidation of ammonium to nitrate or nitrite.

Nitrogen fixation: Conversion of gaseous nitrogen into molecular forms that can be used by plants and other organisms.

Northern Rangelands: Parts of the rangelands that include the Kimberley and Pilbara districts.

Off-reserve conservation: Areas or programs managed for nature conservation outside the formal conservation reserve system.

Pathogen: Organism that causes disease or illness.

Photochemical smog: The visible layer of pollution formed in the lower atmosphere through the action of sunlight on ozone, oxides of nitrogen and hydrocarbons.

Phylum: A major taxonomic division of living organisms thought to have evolutionary relatedness. For example, the Phylum Arthropoda is made up of spiders, insects and crustaceans.

Phytoplankton: The plant or algal component of small and microscopic organisms that float near the surface of the water and have a major primary producer role in aquatic ecosystems.

Port: A coastal area that supports and services shipping.

Precursor pollutants: Those compounds that are required for part of a chemical reaction that results in the creation of pollutants, e.g. photochemical smog will only be formed in the presence of ozone and oxides of nitrogen under specific meteorological conditions.

Primary energy consumption: Total energy consumption which includes energy used in the conversion of fuels to energy (e.g. electricity) and in final use forms.

Putrescible: Those components of the waste stream likely to become putrid (e.g. food).

Quadrat: Typically a small standardised area within which such things as biodiversity or abundance are studied: usually replicated within and between habitats or environments to enable comparisons and monitoring.

Rainfall erosivity: Erosion of soil caused by the amount and intensity of rainfall.

Ramsar Convention: Common name for the Convention on Wetlands of International Importance Especially as Waterfowl Habitat, which was signed in Ramsar, Iran, in 1971.

Reclamation: The conversion of wasteland into land that can be used for some beneficial use.

Recruitment: The addition of new individuals to a population.

Renewable energy: Any source of energy that can be used without depleting its reserves, or that is generated from renewable or replaceable resources.





Residential density: The number of dwelling units within a specifically defined site, suburb or region.

Residential design codes: Planning codes that provide the basis for controlling the siting and design of residential development.

Residential energy use: Energy used directly in the residential sector.

Resource recovery: The recovery of material or energy resources by converting waste into a valuable resource, such as a fuel, packaging material, fertiliser or chemical feedstock.

Revenue passenger kilometres: The product of the number of fare paying passengers travelling on each flight by the distance in kilometres between ports.

Riparian: The zone along or surrounding a waterway where the vegetation and natural ecosystems benefit from, and are influenced by, the passage and storage of water.

Salinisation: The accumulation of salts in the soil to an extent which causes degradation of soils and vegetation.

Salt scalds: A bare patch of earth where the surface soil has been damaged by salinity making it hard to revegetate. Salt may form crystals on the surface.

Sector: A collection of people or organisations that form part of society or the economy.

Sodic soils: Soils containing a high proportion of sodium. Sodic soils cause poor physical conditions for plant growth and are susceptible to erosion.

Solar constant: The average amount of radiant energy received by the Earth's atmosphere from the sun.

Southern Rangelands: Parts of the rangelands that include the Gascoyne, Murchison, Goldfields and Nullarbor districts.

Stationary energy: Energy used for non-transport purposes e.g. fuels used for electricity generation and fuels consumed in the manufacturing, construction and commercial sectors.

Stratosphere: The region of the atmosphere roughly 10–50 km above the Earth's surface, where typically the temperature changes little or increases with height.

Subregion: Terrestrial regions defined by similar types of landform, climate, geology and vegetation. These can be further resolved up in scale to bioregions.

Surface water management area: A collection of surface water management units defined by State agencies that allows for effective management of the surface water resource.

Surface water management unit: A surface water site defined by State agencies where surface water allocation limits have been set.

Surrogate: A substitute. Something that can be used in place of another.

Sustainability: An aspirational goal to meet '... the needs of current and future generations through an integration of environmental protection, social advancement and economic prosperity' (Government of Western Australia, 2003).

Sustainable yield: The amount of natural resource that can be consumed or utilised without causing unacceptable environmental impacts.

Symbiotic: An association between two organisms, typically to their mutual benefit.

Taxa: A defined unit (for example, subspecies, species or genus) in the classification of plants or animals.

The Dreaming: In Aboriginal beliefs, the time of Creation when ancestral spirits came to Earth to create landforms, plants and animals.

Tillage: Mechanical disturbance of the soil by using various implements to alter the soil structure. Usually done to create seedbed, kill weeds or increase water infiltration into soil.

Tonne-kilometres: The product of tonnes of freight and distance transported.

Total economic value: The basis for providing a full understanding of economic benefits or value of an environmental resource. It comprises both the direct use values (e.g. logging of forests), as well as non-use values such as ecological function (e.g. climate stability) and intrinsic values generated by that resource.

Tributyltin: A toxic ingredient in anti-fouling paints used on the hulls of ships.

Triple bottom line: A form of auditable reporting which seeks to balance economic gain against responsibility to society and to the environment.

Turbidity: A measure of the amount of suspended solids (usually fine clay or silt particles) in water and thus the degree of scattering or absorption of light in the water.

Ultraviolet radiation: Shortwave radiation invisible to the human eye which is higher in energy than visible light.

Vector-borne disease: Diseases caused by pathogens transmitted from infected to susceptible hosts via the bite of organisms (usually insects).

Vegetation association: A discrete, identifiable set of plant species that occur together.

Vegetation structure: A description of the look and shape of vegetation, e.g. closed forest, open woodland, savanna grassland.

Vehicle kilometres travelled: The product of the average kilometres travelled by particular categories of vehicles, and the total number of vehicles in each category.

Volatile: Any substance that evaporates readily; an unstable substance.

Wastewater reuse: The recovery of treated water from the municipal wastewater system for reuse in a range of activities, including irrigation and industrial processing.

Water repellence: See 'Hydrophobic'.

Water resource recovery catchment: Catchments classified as important for future water supply purposes and where extensive rehabilitation work may be required and will be performed.

Water supply: Represents the extraction of water from waterways, wetlands and groundwater aquifers for productive or consumptive uses.

Wetland: An area that is permanently, seasonally or intermittently waterlogged or inundated with fresh, saline, flowing or static water. It includes areas of marine water the depth of which at low tide does not exceed six metres. In WA, the term 'wetland' is commonly used to describe that subgroup of non-marine wetlands that are in basin or flat form (such as lakes, sumplands, damplands and palusplain), with the term 'waterway' more commonly used to describe those occurring in channel form (such as rivers and streams).

Woodlands: An area with scattered trees, where the portion of land surface covered by the crowns of trees is more than 30% (open woodland), but less than 60% (forest).

Units and symbols

°C: Degrees Celsius, a measure of temperature.

Bq/m³: Becquerels per cubic metre, a measure of radioactivity.

cm: Centimetre, one hundredth of a metre: a measure of distance or length.

DU: Dobson Units, a measure of thickness of stratospheric ozone.

GJ: Gigajoules, one thousand million Joules, a measure of energy.

GL: Gigalitres, one thousand million litres, a measure of volume.

ha: Hectare, measure of area, equivalent to ten thousand square metres.

J: Joule, a measure of energy.

kg: Kilogram, one thousand grams, a measure of weight.

kg/m³: Kilograms per cubic metre, a measure of density.

KL: Kilo litres, one thousand litres, a measure of volume.

km: Kilometre, one thousand metres, a measure of distance.

kPa: Kilopascals, one Newton per square metre, a measure of pressure.

Kt: Kilotonne, one thousand tonnes, a measure of weight.

kWh: Kilowatt hour, 3.6 x 10⁶ Joules, a unit of energy equivalent to one kilowatt of power transferred or expended in one hour.

L: Litre, measure of volume.

m: Metre, a measure of length.

m²: Square metre, a measure of area in metres.

m³: Cubic metre, a measure of volume in metres.

mg/L: Milligrams per litre, a measure of concentration.

min: Minute, a measure of time.

ML: Megalitres, one million litres, a measure of volume.

mm: Millimetres, one thousandth of a metre, a measure of length.

Mt: Million tonnes, one million tonnes, a measure of weight.

MW: Megawatt, one million watts, a measure of power.

nm: Nautical mile, equal to 1.582 kilometres, a measure of distance at sea.

pH: A symbol denoting the logarithmic concentration of hydrogen ions in solution. A measure of acidity or alkalinity in water in which pH 7 is neutral, values above 7 are alkaline and values below 7 are acid.

PJ: Petajoule, one thousand million joules, a measure of energy.

PM: Particulate matter

PM₁₀: The size of particulate matter in the air that is 10 micrometres or less in diameter.

PM_{2.5}: The size of particulate matter in the air that is 2.5 micrometres or less in diameter.

ppb: Parts per billion, a measure of concentration.

ppm: Parts per million, a measure of concentration.

t: Tonne, one million grams, a measure of weight.

t CO₂-e: Tonnes of carbon dioxide equivalent, a measure of greenhouse gas emissions standardised (in terms of greenhouse effect) to the equivalent amount of carbon dioxide.

W: Watt, one joule of energy used per second, a measure of power or energy usage over time.

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Ian Watson
Robyn Wilson
Tony Webster
Fred Wells
Kristel Wenziker
Donna Weston
Andrew Woolnough
Susan Worley
Ross Yarwood