

GLOSSARY OF TERMS

Term	Definition
Abiotic	Pertaining to physical and inorganic components of the environment; non-living.
Abutment	The part of a valley against which a dam is constructed. Right and left abutments are those on respective sides of an observer looking downstream.
Accretion	(a) The process of growth or enlargement by external accumulation. (b) Sediment accumulation, not necessarily with cementation (opposite to erosion).
Acidic	Quality of being acid; having a pH of less than 7 (see pH).
Adopted Middle Thread Distance (AMTD)	The distance from the mouth of the watercourse or the confluence of the watercourse with the main watercourse measured along the middle of the watercourse.
Adsorbed	The process of attaching to the outside of a surface.
Aestivate	To be dormant, often buried within the soil or under leaf litter, during months of drought.
Aggradation	The build-up of sediment or some other substance.
Algal mat	A thin layer of algae formed over the surface of the benthos.
Allocated water	Water that a person or entity has been granted an entitlement to extract.
Allochthonous material	Organic matter that is derived from outside of the aquatic ecosystem, such as leaves of terrestrial vegetation that fall into the stream.
Alluvial (alluvium)	Weathered material transported and deposited by the movement of water.
Alluvial forests	Forests growing in alluvial soils, mainly sand and silt, that a river has carried in suspension and then deposited.
Alluvial plain	A plain formed by the deposition of alluvial material over a long period of time.
Amphidromous	Organisms which migrate between saltwater and freshwater environments however not for breeding purposes.
Anabat	A bat detector that can record the signals of bats for computer analysis. It converts the ultrasonic echolocation signals of bats into audible electronic signals which can be recorded and processed, to assist in identification of the species.
Anaerobic	Having or producing no oxygen.
Anastomosing	Water spreading across the river bed as numerous small channels.
Animal	Any member, alive or dead, of the animal kingdom (other than a human being).
Annual Exceedance Probability (AEP)	The probability of a specified magnitude of a natural event being exceeded in any year.
Annual Proportional Flow Deviation	Annual proportional flow deviation is the statistical measure of changes to flow season and volume in the simulation period calculated using the formula in Technical Report 5 of "Fitzroy Basin Water Allocation and Management Planning Technical Reports" (DNRW, 1999)
Anoxic	Without or depleted of oxygen.
Anthropogenic	Effects, processes, objects or materials which do not occur in natural environments but are as a result of, or derived from human activities.
Aquatic macrophyte	Submerged, emergent or floating aquatic vegetation that is visible to the naked eye.
Aquiclude	A boundary layer that prevents soil water infiltration.
Aquifer	A water-bearing stratum of permeable rock, sand, or gravel, able to transmit substantial quantities of water.
Aquitard	A formation which contains groundwater but cannot transmit it rapidly enough to furnish a significant supply to a well or spring.
Arboreal	Living in or among trees.
Argillaceous	Rocks composed of clay minerals, or having notable proportion of clay in their composition such as shale and slate.
Artesian bore	A bore drilled into a confined aquifer with enough hydraulic pressure for the water to flow to the surface without pumping (also called a flowing well).
Australian Height Datum (AHD)	The datum used for determining elevations in Australia which uses a national network of bench marks and tide gauges, and has set mean seal level as zero elevation.

Term	Definition
Average Recurrence Interval (ARI)	The average interval (in years) between the occurrence of a flow, discharge or rainfall greater than or equal to a specified amount.
B horizon	The second or subsurface zone of soil made of clay and oxidized materials and organic matter obtained from the A horizon by leaching.
Benthic	Pertaining to the bottom of a body of water.
Benthos	A term for all of the flora and fauna that live in or on the bottom substrate of waterbodies, including creeks, rivers and wetlands.
Biodiversity	Biodiversity is short for "biological diversity". It describes the variety of life forms and their habitats that make up a region. Biodiversity includes the diversity of plant and animal species, the diversity of ecosystems formed by communities of these organisms, and the genetic diversity within and between species.
Biofilm	A thin layer of living cells, such as bacteria, protozoa and algae, which coat the surface of a living or non-living substrate.
Biogenic sediment	Sediment produced by the actions of living organisms.
Biotic	Pertaining to living organisms, and usually applied to the biological aspects of an organism's environment.
Borrow pit	A small excavation providing earth to be used for construction material.
Bunding	An artificially created boundary, usually in the form of an embankment used to prevent sediment and substances from entering a water stream or storage facility.
Cainozoic	The period of geological time extending from approximately 65 million years ago up to the present.
Calcareous	Limy or chalky rock or soil containing a high proportion of calcium carbonate.
Carbonaceous	Sediment or rock containing very small grains of carbon distributed evenly throughout the rock, giving it a black colour.
Carboniferous	The period of geological time extending from about 360 to 290 million years ago.
Carboniferous period	The Carboniferous is a major division of the geologic timescale that extends from the end of the Devonian period, about 360 million years ago (mya), to the beginning of the Permian period, about 290 mya.
Catadromous species	Diadromous species that spend the majority of their life in freshwater and migrate to saltwater to breed.
Catchment	The area of land, which collects and transfers rainwater into a waterway.
Cation	A positively charged ion in solution.
Cease to flow	The period where water ceases to flow.
Channelisation	The formation of deeper channels within a waterway.
Chromosols	Soils with a clear or abrupt textural change at the B2 horizon where the pH is 5.5 (water) or greater in the upper B2 horizon. The B2 horizon is often brightly coloured.
Coastal plain	Any plain with its margins on the shore of the sea. Generally a flat featureless area of low relief which is usually underlain by sediments.
Colluvium	Loose bodies of sediment transported by gravity which have been deposited or built up towards the base of a low grade slope.
Common	The wildlife is common or abundant and is likely to survive in the wild.
Commonwealth Marine Area	The Commonwealth Marine Area is any part of the sea, including the waters, seabed, and airspace, within Australia's exclusive economic zone and/or over the continental shelf of Australia, that is not State or Northern Territory waters.
Community	An assemblage of interdependent populations of different species (plants and animals) interacting with one another, and living in a particular area.
Compensatory habitat	A vegetation or habitat offset to maintain the extent of remnant vegetation or habitat for threatened species that will be lost as a result of the Project.
Conglomerate	Coarse sedimentary rock containing cemented rounded gravel or pebbles
Connectivity	Refers to the ease with which organisms move between particular landscape elements.

Term	Definition
Controlled action	An action (including a project, development, undertaking, activity, or series of activities) that is likely to have a significant impact on a Matter of National Environmental Significance, as defined by the Commonwealth Minister for the Department of Sustainability, Environment, Water, Populations and Communities. If an action is controlled it is subject to a rigorous assessment and approval process under the provisions of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth).
Covenant	An agreement or contract between two parties (i.e. landholder and council).
Cracking clay	Clay soil from surface with large cracking patterns. Usually with gilgai surface features.
Critical storm duration	The critical storm duration is the duration of rainfall that will result in the highest peak flood levels at a particular location.
Crustacean	An arthropod with jointed appendages, a hard protective outer shell, two pairs of antennae and eyes on stalks, e.g. crabs, prawns.
Crystobalitic	Form of silica.
Culvert	A covered channel that carries water, often be covered by a bridge or a road.
Cusped	Points formed by the intersection of two arcs.
Dead storage	The volume in a water storage below the lowest operable level.
Dendritic	Having a form resembling a shrub or tree.
Denuded (denudation)	The removal of matter. Commonly used to describe the removal of vegetation, but also refers to the process of mass, or rapid, sediment removal.
DERM	Department of Environment Resource Management
Dermosols	Soils lacking strong texture contrast and having a structured B horizon.
Desiccation	Drying out due to the effects of the environment.
Diadromous species	Organisms that move during their life cycle between freshwater and saltwater environments.
Discharge spring	A spring supplied by underground water from an aquifer that in the vicinity of the spring is a confined aquifer.
Dispersion	To distribute or suspend fine particles, such as clay, in or throughout a dispersion medium, such as water.
Dissolved Oxygen (DO)	The amount of oxygen dissolved in water.
Diversity	The variety of a particular factor.
Duplex	Light surface texture of sand or clay loam abruptly overlying clay.
Easement	An access right held by a third party to enter upon and make use of land belonging to another for a specified purpose.
Ecological	Relating to the relationships between organisms and their environment.
Ecology	The study of the interrelationships of organisms with and within their environment.
Ecosystem	A biophysical environment containing a community of organisms.
Edge (habitat)	The habitats on the edge of a stream, which may contain undercut banks, trailing bank vegetation, aquatic macrophytes, tree roots etc.
Edge effect	All changes at an ecosystem boundary and within adjacent ecosystems; the negative influence of a disturbed habitat edge on the interior conditions of a habitat, or on species that use the interior habitat.
Electrical conductivity	A measure of the ionic activity of a solution in term of its capacity to transmit current.
Electrofishing	A fish sampling technique which uses electric fields and electric currents to capture fish by controlling fish movement and/or immobilising fish.
Embankment dam	Embankment dams are made mainly from natural materials. The two main types are earthfill dams and rockfill dams. Earthfill dams are made up mostly from compacted earth, while rockfill dams are made up mainly from dumped and compacted rockfill. The materials are usually excavated or quarried from nearby sites, preferably within the reservoir basin.
Embayment	Small bay between minor headlands.
Emergent macrophyte	Aquatic plant rooted in the channel substrate with stems, flowers and most mature leaves projecting above the water surface

Term	Definition
Emerson test	A classification of soil aggregates based on their coherence in water. The conditions under which they slake, swell and disperse allow the different aggregates to be separated into eight classes. The test is particularly valuable in a soil conservation context as it grades soil aggregates according to their stability in water.
Endangered	A species is endangered if: <ul style="list-style-type: none"> ■ there have not been thorough searches conducted for the wildlife and the wildlife has not been seen in the wild over a period that is appropriate for the life cycle or form of the wildlife; or ■ the habitat or distribution of the wildlife has been reduced to an extent that the wildlife may be in danger of extinction; or ■ the population size of the wildlife has declined, or is likely to decline, to an extent that the wildlife may be in danger of extinction; or ■ the survival of the wildlife in the wild is unlikely if a threatening process continues.
Endangered Regional Ecosystem	A regional ecosystem is listed as endangered under the <i>Vegetation Management Act 1999</i> (Qld) if remnant vegetation is less than 10 per cent of its pre-clearing extent across the bioregion; or 10-30% of its pre-clearing extent remains and the remnant vegetation is less than 10,000 hectares.
Endemic	Restricted to a certain region or part of region.
Environment	The total of all the external conditions that act upon an organism.
Environmental flow	Freshwater flow that is maintained solely for environmental reasons, e.g. flows to act as an environmental cue, to deliver nutrients and sediment downstream etc.
Environmental flow	The flow of water that is required to maintain aquatic and riparian ecosystems in streams and rivers.
Environmental Flow Objective (EFO)	Performance indicators set out in the <i>Water Resource (Fitzroy Basin) Plan 1999</i> for the measurement of the environmental performance of the Fitzroy Basin.
Environmental quality	Human (individual or social) concepts of desirable ecological situations.
Ephemeral	Transitory, short-lived.
Epilimnion	Upper waters of a thermally-stratified water body. The upper layer is characterised by warmer and lighter water.
Erosion	The process by which rocks are loosened, worn away and removed from parts of the Earth's surface. Seven processes of erosion discussed separately; in practice they overlap and it is often difficult to isolate the net effects of any one process. Rainsplash erosion: the detachment and removal of soil and debris by raindrop impact. Overland flow OR surface runoff: water flowing over the surface before being concentrated into definite streams. Sheet erosion, sheet wash, or slope wash: the combined effect of overland flow and rainsplash. Gully erosion: the rapid development of gullies, usually in first- or second-order tributaries of streams, BUT also in situations unrelated to an integrated drainage system (eg highly dispersive soils) Mass Movement: downhill movement of debris <i>en masse</i> rather than as individual particles. It can occur slowly (creep), or rapidly (rockfalls, slumps, landslides). Surface rock creep: the movement of stones down sloping surfaces. Fluvial erosion: the detachment and removal by streams of material in solution, suspension, or as bed load. Includes removal of debris supplied to the streams by slope wash, mass movement, and gullies.
Essential habitat	Vegetation in which a species of wildlife is known to occur that is listed as endangered, vulnerable, near threatened under the <i>Nature Conservation Act 1992</i> (Qld).
Estuarine	The mouth region of a river that is affected by tides.
Euphotic zone	Surface layer of a body of water which receives enough sunlight for photosynthesis.
Euryhaline	Tolerant of a wide range of water salinities.
Eutrophic	A body of water impacted by high concentrations of nutrients.
Eutrophication	The process whereby water bodies, such as lakes, estuaries, or slow-moving streams receive excess nutrients that stimulate excessive plant growth. This enhanced plant growth, reduces dissolved oxygen in the water when dead plant material decomposes and can cause other organisms to die.
Evaporation	The process that changes a liquid or a solid into a gas. In the tropical hydrological cycle, this involves the conversion to water vapour and the return to the atmosphere of the precipitation (rainfall) that has reached the earth's surface.

Term	Definition
Evapotranspiration	The combined effect of evaporation and transpiration.
Exotic species	Introduced species not native or endemic to the area in question.
Ex-situ	Ex-situ means off site, i.e. protecting a species of plant or animal by removing part of the population from a threatened habitat and placing it in a new location.
Failure Impact Assessment (FIA)	An assessment carried out by a registered professional engineer who evaluates the number of people whose safety would be at risk if there was a dam failure. The assessment, if accepted by the chief executive of the Queensland Department of Natural Resources and Water, will result in the dam being given a failure impact rating according to the number of people at risk.
Fault	A planar rock fracture which shows evidence of relative movement on either side of the fault surface.
Fauna	The collective animals of a given region (see definition for 'animals').
Feral	An introduced or domestic animal living in the wild.
Fishway flow	Flows that are released through a structure designed to allow fish passage up or down stream where a hydraulic structure such as a dam blocks the natural channel. Specific flows are necessary to attract particular species to use the fishway.
Floating Macrophyte	Aquatic plant that floats of the waters surface, which can be either free-floating or rooted. Free-floating species are not typically attached to the substrate, whereas rooted species are attached, usually with mature leaves floating on the water surface.
Flood plain	That portion of a river valley that is covered during periods of high flood water.
Flora	The collective plants growing in a geographic area (see definition for 'plants').
Flow duration curve	A cumulative plot showing the percent of time that given flow volumes are equalled or exceeded.
Flow regime	The variation in flow characteristics, such as volume, for a particular stream over time.
Fluvial	The river system.
Fragmentation	A process of landscape alteration in which natural areas are subdivided into smaller patches.
Full Supply Level (FSL)	The maximum normal operating water surface level of a reservoir.
Geomorphological Time Periods	<p>Proterozoic (2500-545 million years ago) During the Proterozoic two mountainous blocks, the Mt Isa Inlier and the Georgetown massif (current area of the Einasleigh Uplands) were formed. Formation was a result of faulting, folding, thrusting of deposited marine and terrestrial sediments, extrusive volcanics and igneous intrusions. Widespread metamorphism was associated with igneous intrusions and the deforming tectonic activities (Brennan, 2004).</p> <p>Palaeozoic (545-251 million years ago) Extensive erosion and planation was the major process occurring during this period. Weathered sediments were stripped from the two Proterozoic blocks and deposited within the Tasman geosyncline between these two divisions. North-west of the Proterozoic Mt Isa Inlier, a shallow sea transgressed from the south depositing carbonate-dominated marine sediments. These comprise the Barkly Tableland of the upper Nicholson and Settlement Catchments today. In the Einasleigh Uplands some extrusive volcanics accompanied erosion processes and resulted in the formation of the Newcastle and Croydon Ranges in the Norman and Gilbert Catchments. In the west, erosion continued to form an extensive plain that grew eastwards, and by the early Mesozoic, the whole of the Gulf region was reduced to a flat plain (Brennan, 2004).</p> <p>Mesozoic (251-65 million years ago) The Proterozoic to Mesozoic cycle of erosion was terminated by earth movements that warped the flat plains. The result was the transgression (higher sea levels) of the sea into the Carpentaria and Eromanga Basins and the widespread deposition of Mesozoic sediments, namely sandstone, siltstone, mudstone, limestone, shale and conglomerate overlying the erosion surface of old, deformed Proterozoic rocks. By the end of the Mesozoic, the only extruding Palaeozoic rocks remained in the east (Einasleigh Uplands) (Brennan, 2004).</p> <p>Early-Mid Tertiary (65-34 million years ago) During this period the Mesozoic plain was uplifted and warped resulting in widespread erosion of the Mesozoic sediments. By the Mid-Tertiary most of the area was again reduced to a low relief plain that underwent laterisation (Brennan, 2004).</p> <p>Late Tertiary – Quaternary (34 million years ago to present) Uplifting and warping increased slopes and initiated another period of erosion and planation. Streams adjusted to a new base level (increased sea levels) and the erosional surfaces extended inland forming the dissected river valleys seen today. At the upland margins of the Gulf Plains, the late Cretaceous rocks (end of the Mesozoic</p>

Term	Definition
	<p>period) were removed, and within the steeper ranges rocks formed at end of the Palaeozoic period were eroded away. Accompanying widespread erosion was extensive deposition and the formation of new alluvial fans in the lower reaches of the Gulf Catchments (Brennan, 2004).</p> <p>Along the coastline, down-warping lowered the laterised older Tertiary plain to wave action level (hence increased sea levels). This formed low cliffs and a marine terrace. Due to a low offshore gradient and wave action, and high loads of terrestrial sedimentation, constructional landforms were formed (eg, barrier beaches and islands). A later drop in sea level and subsequent emergence of land led to the abandonment of barrier beaches that occur as parallel ridges around the Gulf of Carpentaria today, and the formation of a new lower, marine terrace (Brennan, 2004).</p> <p>Some volcanic eruptions in the eastern block (Einiasleigh Uplands) also occurred during this period, resulting in infilling of older valleys, particularly in the upper Flinders and Gilbert Catchments (Brennan, 2004).</p>
Geomorphology (geomorphological)	The form or shape of the landscape and the processes that modify and change it.
Gilgai	Melon hole, mound depression surface.
Global warming	The warming of the earth's atmosphere generally attributed to the burning of fossil fuels. Also referred to as "The Greenhouse Effect" - the capacity of the atmosphere to transmit short-wave energy (visible and ultra violet light) to the earth's surface, and to absorb and retain heat radiating from the surface.
Great Artesian Basin	An extensive sequences of laterally connected sedimentary rock aquifers extending across much of inland Queensland and certain areas of inland NSW, South Australia and the Northern Territory that encompass the include the geological entities of the Surat Basin, Eromanga Basin, Carpentaria Basin and part of the upper Bowen Basin.
Groundwater	Water found underground in porous rock or soil strata.
Habitat	The biophysical medium or media occupied (continuously, periodically or occasionally) by an organism or group of organisms.
Harp trap	A trap used to capture microchiropteran bats, consisting of metal poles connected by fishing wire.
Herpetofauna	Includes reptiles and amphibians.
Highest Astronomical Tide (HAT)	The highest tide level which can be predicted to occur under any combination of astronomical conditions.
Historical No Failure Yield (HNFY)	This is the maximum volume of water that can be supplied from the dam for every year of the simulation period.
Holocene	Refers to a geological period of time between the present and 10,000 years before present.
Holomixis	Complete mixing of the lake or water body, for example during winter when the epilimnion starts to cool.
Horizontal Layer Method	The layering process involved in Roller Compacted Concrete inevitably leads to the presence of a large number of horizontal joints between the strata, since in order to maintain the necessary compaction density by roller, the layers are typically only 0.3m thick (see "Roller Compacted Concrete").
Hydraulic	Mechanical properties of liquids.
Hypolimnion	Bottom layer of a thermally-stratified water body. This bottom layer is characterised by cold water which is usually low or lacking in oxygen.
Hyporheic	Hyporheic zone is where there is mixing of shallow groundwater and surface water in a region beneath and lateral to a stream bed.
Igneous rock	Rock produced under conditions involving intense heat, as rocks of volcanic origin or rocks crystallised from molten magma.
Intertidal	The area between high and low tide.
Inundation area	The area that will be flooded with water above the existing water level, from raising of the dam.
Invertebrate	Animals that don't have a backbone, e.g. insects, crustaceans.
Jurassic	The period of geological time extending from 213 to 145 million years ago.
Kandosols	Soils lacking strong texture contrast and having a massive B horizon.
Kurosols	Soils with strong texture contrast and having pH <5.5 in B horizon.
Labile	Readily undergoing change or breakdown.
Lacustrine habitat	Lake environment, pertaining to standing water bodies.

Term	Definition
Lentic habitat	Standing or still water habitats such as lakes and ponds.
Lime	Calcium carbonate nodules.
Limnological process	Referring to the chemical, physical and biological properties of bodies of freshwater.
Listed species	A plant or animal included in a schedule of endangered, vulnerable, or near threatened biota, such as the schedules in the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth) or the <i>Nature Conservation (Wildlife) Regulation 2006</i> (Qld).
Littoral vegetation	Vegetation that occurs within the littoral zone.
Littoral zone	Region of shallow water near the shore of a body of water where light reaches the bottom.
Lotic habitat	Flowing water habitats such as rivers and streams.
Macroinvertebrate	Organisms without a backbone which are large enough to be seen with the naked eye.
Macrophyte	An aquatic plant that is large enough to be seen with the naked eye.
Mass movement	The downslope movement of earth caused by gravity. Includes but is not limited to landslides, rock falls, debris avalanches, and creep. It does not however, include surface erosion by running water.
Matter of National Environmental Significance (MNES)	The matters of national environmental significance include: <ul style="list-style-type: none"> ■ listed threatened species and communities ■ listed migratory species ■ Ramsar wetlands of international importance ■ the Commonwealth marine environment ■ World heritage properties ■ National heritage places ■ nuclear actions as defined by the Commonwealth Minister for the Department of Environment and Water (see 'controlled action').
Metamorphic sediment / rock	Rock or sediment that has exhibited a change in structure or composition.
Metamorphism	Transformation of a pre-existing rock into a new rock by the action of heat (thermal metamorphism associated with igneous intrusions) or by severe compressional earth movements (regional metamorphism associated with folding, faulting etc). Changes occur to the texture, composition, physical or chemical structure of the original rock (Brennan, 2004).
Metamorphosed sedimentary rocks	Changed in form or nature, a metamorphic rock is created by heat and pressure such that the minerals, fabric, colour are changed, but not the composition.
Metasediment	Sediments or sedimentary rock which has been subjected to metamorphism.
Microchiropteran bats	Microchiropteran bats are relatively small mammals. These species are specially adapted for flight with wing membranes up to 25cm. They use both eye sight and echolocation for finding their way around at night and locating prey, being mostly insects.
Microhabitat	Within this habitat area there is a low availability of ground microhabitat including leaf litter, logs and branches.
Migratory species	A migratory species listed and protected under the provisions of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth).
Mudstone	A sedimentary rock composed of clay-size particles but which lacks the stratified structure characteristic of a shale.
National heritage place	Under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth), a World Heritage property is either: <ul style="list-style-type: none"> ■ an Australian property on the World Heritage List kept under the World Heritage Convention; or ■ a property declared to be a World Heritage property by the Commonwealth Environment Minister.
Native species	A species that is indigenous to Australia or an external Territory, or periodically or occasionally visits.
Natural environment	The complex of atmospheric, geological, and biological characteristics found in an area in the absence of artefacts or influences of a well-developed technological human culture.
'Least Concern' regional ecosystem	A regional ecosystem is listed as 'Least Concern' under the <i>Vegetation Management Act 1999</i> (Qld) if remnant vegetation is over 30 per cent of its pre-clearing extent across the bioregion, and the remnant area is greater than 10,000 hectares.
'Of Concern' regional	A regional ecosystem is listed as of concern under the <i>Vegetation Management Act 1999</i> (Qld) if remnant

Term	Definition
ecosystem	vegetation is 10-30 per cent of its pre-clearing extent across the bioregion; or more than 30 per cent of its pre-clearing extent remains and the remnant extent is less than 10,000 hectares.
Noxious	Harmful to the environment or ecosystem.
Old growth forests	Forests that are both little disturbed and ecologically mature.
Opportunistic	When the conditions are ideal.
Overtopping	The process whereby the water level rises above the height of the dam wall.
Pelagic zone	The water column associated with the surface or middle depths of a water body, away from the bottom.
Perennial	Lasting for an indefinite amount of time.
Permeability	The capacity of a material (rock) to transmit fluids (groundwater).
Permeable rock	Rock through which water can pass, either via: (a) a network of pores between the grains; or (b) interconnected joints, bedding planes and fissures (more correctly termed 'pervious rock').
Permian	The period of geological time extending from about 285 to 250 million years ago.
PET richness	Refers to the sum total of all taxa from the orders Plecoptera (the stoneflies), Ephemeroptera (mayflies), and Trichoptera (caddisflies).
pH	Measure of the acidity or alkalinity of a substance, with 1 being the most acidic, 7 being neutral and 14 being the most alkaline.
Planation	Processes of erosion results in the formation of fundamentally, flat, even or level surfaces (Brennan, 2004).
Plant	A member, alive or dead, of the plant kingdom or of the fungus kingdom, and includes a part of a plant and plant reproductive material.
Pleistocene	The first part of the Quaternary period of geological time lasting from about 2 million years to 10,000 years ago.
Pool	An area in a stream that has no water flow and that is often deeper than other parts of the stream.
Population	Occurrence of a species or ecological community in a particular area.
Porosity	Is a measure of void spaces in various rock types.
Potadromous species	Organisms which complete their entire life cycle in fresh water.
Potentiometric surface	The water level surface that can be defined from the mapping of water level elevations in bores tapping into a confined aquifer.
Precambrian	The period of geological time extending from about 285 to 250 mya.
Precipitation	A collective term for the moisture, either liquid or solid, that falls on the earth from the atmosphere. In North Queensland this is usually in the form of rain.
Probable Maximum Flood (PMF)	The flood resulting from the worst flood-producing catchment conditions that can be realistically expected in the prevailing meteorological conditions.
Prograde (progradation)	The accumulation of sediments and the subsequent migration of a bank or coastline outwards from the land.
Propagation	The reproduction of plants.
Quantitative	An assessment based on the amount or number of something.
Quaternary	The period of geologic time extending from 1.8 million years ago to the current time.
Ramsar wetland	Under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth), a Ramsar wetland is either: <ul style="list-style-type: none"> ■ an Australian wetland on the List of Wetlands of International Importance kept under the Ramsar Convention; or ■ a wetland declared to be a Ramsar wetland by the Commonwealth Environment Minister.
Near Threatened	A species listed and protected under Schedule 5 of the Queensland Wildlife Regulations 2006
Recharge	The process involving the infiltration of water from the surface to groundwater.
Recharge spring	A spring supplied by underground water from an aquifer or aquifers that in the vicinity of the spring are not confined aquifers. Recharge springs are found in areas where water enters and recharges the aquifers in the Basin.

Term	Definition
Recovery plan	A recovery plan is a document stating the research and management actions necessary to stop the decline, support the recovery and enhance the chance of long-term survival in the wild, of a stated species or community of protected wildlife.
Regional ecosystems (RE)	Regional ecosystems were defined by Sattler and Williams (1999) as vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil.
Regrowth	A young, usually even-aged forest stand that has regenerated after disturbance.
Rehabilitation	Making the land useful again after a disturbance. It may involve the recovery of ecosystem functions and processes in a degraded habitat.
Relocation	The relocation of an animal from one location to another.
Remnant vegetation	Small remaining areas of naturally occurring vegetation in a landscape that has been altered by human activity such as agriculture. These remnants were once part of a continuously vegetated landscape.
Riffle zone	An area within a stream that is characterised by shallow water, rocky sediment and fast water flows.
Rill erosion	The removal of soil by numerous small channels only several inches deep. Rills occur mainly on recently cultivated soils or recent cuts and fills.
Riparian	Pertaining to, or situated on the bank of, a body of water, especially a watercourse such as a river.
Riverine	Pertaining to rivers.
Roller Compacted Concrete (RCC)	A zero slump concrete requiring no steel reinforcement and is compacted by vibratory rollers. In RCC dams, progressive layers of a relatively dry mix of concrete are laid, each being compacted down in turn by rollers, allowing dams to be built much faster and significantly cheaper than by traditional methods of construction.
Rudosols	Soils with negligible pedological organisation.
Run	An area in a stream that is characterised by moderately straight channels and medium water flow.
Salinity	The concentration of any salt.
Sediment	Any usually finely divided organic and / or mineral matter deposited by air or water in non-turbulent areas.
Sedimentary rock	A rock that has generally formed from initially unconsolidated sediment such as clay, silt, sand or gravel, however it should be noted that certain types of sedimentary rock form from chemical processes such as certain types of limestone.
Sedimentation pond	An artificial retention basin designed to trap suspended sediments carried in overland water flow before discharge into a water storage facility.
Senescing	Ageing and deteriorating, e.g. pools that drying out over time.
Sheet erosion	Erosion of thin layers of earth-surface material, more or less evenly, from extended areas of gently sloping land by broad continuous sheets of running water, without the formation of rills, gullies, or other channelised flow.
SIGNAL 2	An index of macroinvertebrate communities that gives an indication of the types of pollution and other physical and chemical factors affecting a site.
Slaking	The partial breakdown of soil aggregates in water due to the swelling of clay and the expulsion of air from pore spaces.
Sloped Layer Method	This method involves building up multiple layers of concrete, in 0.3m thicknesses, laid successively to build up one single super-layer, sloped at an incline of between 1:10 and 1:20.
Sodic	Refers to the dominance of sodium on the exchange complex of the soil. High levels of sodium can cause moisture infiltration problems and the accompanying, generally high soil pH, can cause nutrient disorders.
Sodosols	Soils with a clear or abrupt textural B horizon and in which the major part of the upper 0.2 m of the B2 horizon (or the major part of the entire B2 horizon if it is less than 0.2m thick) is sodic and not strongly acid.
Soil aggregation	The lumping together of soil particles into a coherent mass.
Soil profile	The physical and chemical features of the soil imagined or seen in vertical section from the surface to the point at which the characteristics of the parent rock are not modified by surface weathering or soil processes.
Species	A group of biological entities that (a) interbreed to produce fertile offspring; or (b) possess common characteristics derived from a common gene pool.
Species richness	A botanical term indicating a measure of the number of species of plants or animals occurring in a given area.
Spotter/catcher	An ecologist who is accredited by the Queensland Parks and Wildlife Service (QPWS) to capture and relocate

Term	Definition
	fauna (mainly mammals) from trees prior to vegetation clearance.
Spring	The point where groundwater flows out of the ground, and is thus where the aquifer surface meets the ground surface.
Spudded	Commenced in (e.g. a bore spudded in the Precipice Sandstone will have commenced drilling at the surface in an outcrop of Precipice Sandstone).
Strata	Plural of stratum, strata refers to the process whereby material, whether natural or artificial, forms parallel layers upon one another.
Stratigraphic	Pertaining to the study of the subdivision, composition, age and correlation of sedimentary rocks.
Stream gauging station	A site on a stream where the level and rate of flow in a stream can be measured. Such stations may be equipped to continually monitor stream level and flow or may be sites where spot measurements of stream level and flow area made.
Stress	The result or consequent state of a physical or chemical, or social, stimulus on an organism or system.
Subartesian bore	A bore drilled into an aquifer that does not have enough hydraulic pressure for the water to flow to the surface without pumping.
Sublabile	Minerals that are not fully subject to ready change or breakdown.
Submerged Macrophytes	Aquatic plant the grows beneath the surface of the water, although flowers may protrude through the water surface, and some leaves may float on the water surface
Sub-population	An assemblage of subpopulations that occur in more or less discrete habitat patches. The overall population is a metapopulation.
Sub-species	A geographically separate population of a species, being a population that is characterised by morphological or biological differences from other populations of that species.
Substrate	The underlying base to something, e.g. the streambed.
Surat Basin	A geological entity which consists of a series of vertically layered formations and forms part of the Great Artesian Basin of Australia. The Surat Basin extends across an area of 27,000 km ² mainly in Queensland although the southern third of the basin occupies a large part of northern New South Wales. The rocks in the Surat Basin largely comprise Jurassic through to Cretaceous age sediments.
Syncline	A fold in rocks in which the strata dip inward from both sides (limbs) toward the axis.
Systematic	In a methodical and organised way.
Taxa	Taxonomic group of any rank (for example as species, genus, family, class, order).
Tenosols	Soils with weak pedological organisation.
Terrain	A tract of land and its physical features with emphasis on bedrock geology.
Terrestrial	Pertaining to land, the continents, and/or dry ground. Contrasts to aquatic.
Tertiary	The period of geological time extending from about 65 to 2 mya.
Threatened	A collective term for native plants and animals which are presumed extinct, endangered and vulnerable.
Threatened species and ecological communities	Threatened species or ecological communities listed and protected under the provisions of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth).
Topography	Description or representation of natural or artificial features of the landscape; the description of any surface, but usually the earth's.
Total dissolved solids (TDS)	A measure of the total amount of dissolved mater in water, and indication of the total salinity of water.
Trailing bank vegetation	Riparian vegetation that hangs over the bank of a creek into the water.
Translocation	The transfer of plants and animals from one part of their range to another.
Transmissivity	The rate at which groundwater can flow through an aquifer section of unit width under a unit hydraulic gradient. It is the average permeability of a section of the entire aquifer at a given location multiplied by the thickness of the formation.
Transpiration	The loss of water from plants, normally as vapour.
Trophic	Describes the diet of groups of plants or animals within the various levels of a food web.

Term	Definition
Turbidity	The clarity of a waterbody; depends on the concentration of particles that are suspended in the water column.
Ubiquitous	Having or seeming to have the ability to be everywhere at once.
Unallocated water	Water to which an entitlement to extract has not been granted.
Unconfined aquifer	An aquifer containing water that is not under pressure. The water level measured in a bore drilled into an unconfined aquifer is the same as the water table outside the bore.
Understorey	A general term for the plants of a community occurring at levels lower than the top stratum.
Velocity	The rate of water movement with respect to time.
Vertosols	Soils with high clay content (>35%), cracks and slickensides.
Vulnerable	<p>A species is vulnerable if:</p> <ul style="list-style-type: none"> ■ its population is decreasing because of threatening processes, or ■ its population has been seriously depleted and its protection is not secured; or ■ its population, while abundant, is at risk because of threatening processes; or ■ its population is low or localised or depends on limited habitat that is at risk because of threatening processes.
Water Allocation Security Objective (WASO)	Means an objective that may be expressed as a performance indicator and is stated in a water resource plan for the protection of the probability of being able to obtain water in accordance with a water allocation.
Weathering	Changes in the coherence, texture and composition of rocks and minerals by either physical (mechanical) or chemical processes as a result of exposure at the Earth's surface.
Weed	A plant that is considered undesirable because it threatens the persistence of native plants.
Wetlands	Low-lying areas regularly inundated or permanently covered by shallow water. Usually important areas for birds and other wildlife.
Wildlife	An animal, plant or specimen derived from an animal or plant.
Wildlife corridor	A strip of habitat that facilitates fauna movement between otherwise isolated patches of habitat.
World Heritage property	<p>Under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth), a World Heritage property is either:</p> <ul style="list-style-type: none"> ■ an Australian property on the World Heritage List kept under the World Heritage Convention; or ■ a property declared to be a World Heritage property by the Commonwealth Environment Minister.
Zeolitic	Group of structures containing large internal cavities.