20.1 List of Abbreviations

AADT	Average annual daily traffic
ABARE	Australian Bureau of Agriculture and Resource Economics
ABS	Australian Bureau of Statistics
ADWG	Australian Drinking Water Guidelines
AEC	Australian Electoral Commission
AFMA	Australian Fisheries Management Authority
agl	above ground-level
AGSO	Australian Geologic Survey Organisation
AHC	Australian Heritage Commission
AHD	Australian Height Datum
AMTD	Average Middle Thread Distance
ANCOLD	Australian National Committee on Large Dams
ANOVA	Analysis of Variance
ANZECC	Austral and New Zealand Environment and Conservation Council
AR&R	Australian Rainfall and Run-off
ARI	Average Recurrence Interval
AS	Australian Standard
ASC	Australian Soil Classification
ASL	Above Sea Level
ASS	Acid Sulfate Soils
ASXXXX	Australian Standard Number eg AS1940
AUST ROADS	Australian Roads
BACI	Before After Control Impact
Bar	Barometric
BCCA	Burnett Catchment Care Association
bcm	Bank cubic metre
BDL	Below detection limits
BGA	Blue Green Algae
BIA	Bundaberg Irrigation Area
BOD	Biological Oxygen Demand
BOM	Bureau of Meteorology
CAMBA	China-Australia Migratory Bird Agreement
Cells/mL	Algal cells per millilitre
CHAZOP	Control Hazard and Operability Study
CHMP	Cultural Heritage Management Plan
CLR	Contaminated Land Register
COAG	Council of Australian Governments
CO_2	Carbon dioxide
CoRTN	Calculation of Road Traffic Noise
CPUE	Catch Per Unit Effort
CRP	Community Reference Panel
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Cth	Commonwealth
CV	Commercial vehicles
dB	decibels
DCILGPS	Department of Communication, Information, Local Government, Planning and Sport
dB(A)	A-weighted sound power levels
DCS	Distributed control system
DFIC	Dam failure impact category
DME	Department of Mines and Energy
DMR	Department of Main Roads
DNR	Department of Natural Resources (before 2001)
DNRM	Department of Natural Resources & Mines (from 2001)
DO	Dissolved Oxygen
DoS	Degree of Saturation
DPI	Queensland Department of Primary Industries, Fisheries and Forestry
DSD	Queensland Department of State Development
DUAP	Department of Urban Affairs and Planning
E	east

EAP	Emergency Action Plan
EC	Electrical Conductivity
EET	Emission Estimation Technique
EFO	Environmental Flow Objectives
EIS	Environmental Impact Study
EMP	Environmental Management Plan
EMR	Environmental Management Register
EMS	Environmental Management System
ENM	Environmental Noise Model
EP	equivalent persons
EPA	Queensland Environmental Protection Agency
EPA Act	*Environmental Protection Act 1994 (Qld)*
EPBC 1999	*Environmental Protection and Biodiversity Conservation Act 1999 (Cth)*
EPIP	*Environmental Protection (Impact of Proposals) Act 1974 (Cth)*
EPP	Environmental Protection Policy
EPP Air	*Environmental Protection (Air) Policy 1997(QLD)*
EPP Noise	*Environmental Protection (Noise) Policy 1997(QLD)*
EPP (Waste)	*Draft Environmental Protection (Waste) Policy 1997 (QLD)*
EPP Water	*Environmental Protection (Water) Policy 1997 (QLD)*
EPR	Environmental Protection Regulation
ERA	Environmentally Relevant Activity
ES	Electrical Systems
ESAA	Electricity Supply Association of Australia
ESD	Ecologically Sustainable Development
EVAP	Evaporation
Fe	Iron
FHA	Fish Habitat Area
FP	Fire Protection
FSL	Full supply level
ft	foot/ feet
FTY	Forestry
g	gram
GAB	Great Artesian Basin
GBRMPA	Great Barrier Reef Marine Park Authority
GDP	Gross Domestic Product
GLC	Ground level conditions
GDP	Gross domestic product
GPS	Geographical Positioning Syatem
GQAL	Good quality agricultural land
GRP	Gross Regional Product
GSG	Great Soil Group
GSP	Gross State Product
GSV	Ground Surface Visibility
h	hour
ha	hectare
Hz	Hertz
HAPs	Hazardous air pollutants
Hazchem	Hazardous Chemicals
HAZOP	Hazard and operability study
HIPAP	Hazardous Industry Planning Advisory Paper
HSSA	Height Storage Surface Area
IAS	Impact Assessment Study
IDAS	Integrated Development Assessment System
IEMS	Integrated Environmental Management System
IGAE	Inter-Government Agreement on the Environment
IFD	Intensity frequency duration
IFOAM	International Federation of Organic Agriculture Movements
IGA E	Inter-Governmental Agreement on the Environment
InAS	Initial Advice Statement
IPA	*Integrated Planning Act 1976 (Qld)*
IQQM	Integrated Quality and Quantity Model
ISO	International Standards Organisation
ISMP	Initial Stormwater Management Plan
JAMBA	Japan-Australia Migratory Bird Agreement

km	Kilometre
L	Litre
L/s	Litre per second
LA_{10},1hr	A-weighted sound level exceeded 10% of time
LA_{90},1hr	A-weighted sound level exceeded 90% of time
Lamax	peak A-weighted sound level
Leq	Noise levels of a continuous steady sound
LGA	Local Government Area
Lmax	peak sound level
Ln	Noise level exceeded for a given proportion of the time
LoS	Loss of Service
LRA	Land Resource Area
LWM	Low water mark
?	micro
MAF	Mean Annual Flow
m**g**	microgram
m**g/L**	micrograms per litre
m**g/m^3**	microgram per cubic metre
m**m**	micrometre or micron
m**S/cm**	microSiemens per centimetre
m	metre
mg/L	milligrams per litre
m/s	metre per second
mE	meters east
mN	meters north
m^3	cubic metre
ML	megalitre
ML/yr	megalitre per year
mL	millilitre
mm	millimetre
mm/s	millimetres per second
mbgl	metre below ground level
MCR	Maximum continuous rating
MHWS	mean height water springs
MPa	mega pascal
MSDS	Material Safety Data Sheets
Mt/y	megatonne per year
N	North
n	nano
h	Efficiency
N/A	Not Applicable
NATA	National Association of Testing Authorities
NB	Nominal bore
NCWR	Nature Conservation (Wildlife) Regulation 1994 (Qld)
NDMP	Natural Disaster Management Plan
NDSU	North Dakota State University
NDT	Non-destructive testing
NEPC	National Environment Protection Council
NEPM Air	National Environment Protection Measure for Ambient Air Quality 1998
NHMRC	National Health and Medical Research Council
Nm	Normal flow rate
No.	number
NPI	National Pollutant Inventory
NPK	Nitrogen, Phosphorus, Potassium (measurement of soil fertility)
NTU	Nephelometric turbidity units. Units used to measure turbidity
NWQMS	National Water Quality Management Strategy
O_3	Ozone
OC	Organochlorine
OCP	Organochlorine Pesticide
OECD	Organisation for Economic Cooperation and Development
OESR	Office of Economic and Statistical Research
OLS	obstacle limitation surface
OPAC	Organic Produce Advisory Committee
PASS	Potential Acid Sulphate Soils
PAWC	Plant Available Waterholding Capacity

pers. comm.	personal communication
pH	Measure of acidity (-ve logarithm of hydrogen ion concentration)
PHA	Preliminary Hazard Analysis
PHR	Preliminary Hazard Review
PMx	particulate matter of diameter less than x microns
PMF	Probable Maximum Flood
PMP	Probable Maximum Precipitation
PM10	Particles less than 10 microns in diameter
ppb	parts per billion
PPF	Principle Profile Form
ppm	parts per million
PSMP	Public Safety Management Plan
PWL	Power level
Q_{100}	Volume of flow for a 1 in 100 year storm event
Q_2	Volume of flow for a 1 in 2-year storm event
QASSIT	Queensland Acid Sulfate Soils Investigation Team
QDPI	Queensland Department of Primary Industries and Fisheries
QEC	Queensland Electricity Commission
QWQTF	Queensland Water Quality Task Force
RF	Rain fall
RGMF	Regional Growth Management Framework
RID	Regional Infrastructure Development
RIP	Road Implementation Program
RL	Reduced Level
ROP	Resource Operation Plan
S	south
s	second
SD	Statistical Division
SDPWO	*State Development and Public Works Organisation Act 1971(Qld)*
SE	south-east
SEPP	State Environment Protection Policy
SEQRAQS	South East Queensland Regional Air Quality Strategy
SF	State Forest
SIIP	Sugar Industry Industry Infrastructure Package
SKM	Sinclair Knight Merz
SMS	Safety Management System
SOMP	Storage Operational Management Plan
SPL	Sound pressure level
stp	standard temperature and pressure
SWL	Surface Water Level
t	tonne
TAP	Technical Advisory Panel for Water Allocation Management Plan
TD	Total depth
TDS	Total Dissolved Solids
TFAR	Terrestrial Fauna Assessment Report
TMP	Transport Management Plan
TOR	Terms of Reference
TP	Total phosphorous
tpa	Tonnes per annum
TSP	Total Suspended Particulates
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
V	Volts
W	West
WAMP	Water Allocation Management Plan
WASO	Water Allocation Security Objectives
WQ	Water Quality
WQO	Water Quality Objective
WRP	Water Resource Plan
yr	Year

20.2 Units

Units		
Quantity	**Symbol**	**Derivation**
Time Intervals		
second	s	
day	d	
hour	h	
minute	min	
Length		
metre	m	
Velocity		
metres per second	m/s	
kilometres per hour	km/h	(1/3.6)m/s
Mass		
kilogram	kg	
tonne	t	
Density		
grams per cubic centimetre	g/cc	
kilograms per cubic metre	kg/m^3	
Area		
square meter	m^2	
hectare	ha	10^4 m^2
Volume		
cubic meter	m^3	
litre	L	10^{-3} m^3
Flow Rate		
cubic metre per second	m^3/s	
litre per second	L/s	
gram per second	g/s	
gram per hour	g/h	
normalised flow rate	Nm^3/s	
milligram per normalised cubic meter	mg/Nm^3	
Force		
newton	N	1kg.m/s^2
Energy		
joule	J	
watt	W	1kg.m^2/s^2
watt hour	Wh	J/s
watt hour / year	Wh/year	
gigawatt hour	GWh	10^9 W
kilocalorie per kilogram	kcal/kg	
kilowatt hours per air dried tonne	KWh/ADt	
Pressure		
pascal	Pa	1kg/m.s^2
Temperature		
T_K degrees Kelvin	^oK	
T_C degrees Celsius	^oC	T_K=T_C -273.15
Noise		
decibel	dB	
decibel (A-Weighted scale)	DB(A)	
Potential		
volt	V	1kgm/s^2/As^3
Frequency		
hertz	Hz	$1s^{-1}$

Prefixes for Units		
Quantity	**Symbol**	**Value**
exa	E	10^{18}
peta	P	10^{15}
tera	T	10^{12}
giga	G	10^9
mega	M	10^6
kilo	k	10^3 (1000)
hecto	h	10^2 (100)
deca	da	10^1 (10)
deci	d	10^{-1} (0.1)
centi	c	10^{-2} (0.01)
milli	m	10^{-3} (0.001)
micro	µ	10^{-6}
nano	n	10^{-9}
pico	p	10^{-12}
femto	f	10^{-15}
atto	a	10^{-18}

20.3 Glossary

95th percentile	95% of sampled (n) values fall below this value
absorption	The penetration of one substance into another
acid volcanic rock	Volcanic rock containing a relatively high proportion of silica.
aerobic	Taking place in the presence of oxygen.
agglomerate	To collect together fine suspended particles usually for removal from suspension.
Allochothonous	Matter produced from photosynthesis in a catchment rather than a wetland
alluvial fan	A fan-shaped mass of material deposited at a point along a river or stream where a sudden decrease in the gradient occurs.
alluvial material	Material, 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.
alluvial terrace etc.	A raised area, next to a river or stream, formed by the deposition of alluvial material.
alluvium	A deposit of detritus and sediment laid down by water; stream or river deposits of comparatively recent origin.
ambient conditions	Surrounding or background conditions
anadromous	Estuarine species that move to freshwater to spawn
Annual Exceedance Probability	The probability of a specified magnitude of a natural event being exceeded in any year.
annual return	The sending or receiving of yearly documents.
anoxic	Without oxygen
Appurtenant works	All ancillary structures of a dam including, but not limited to, spillways, inlet and outlet works, tunnels, pipelines, penstocks, and diversions.
aquifer	Rock or sediment in a formation, group of formations, or part of a formation which is saturated and sufficiently permeable to transit economic quantities of water to wells and springs.
aquifer, confined	An aquifer that is overlain by a confining bed. The confining bed has significantly lower hydraulic conductivity than the aquifer.
aquifer, perched	A region in the unsaturated zone where the soil may be locally saturated because it overlies a low-permeable unit.
aquifer, unconfined	An aquifer in which there are no confining beds between the zone of saturated and surface. There will be a watertable in an unconfined aquifer. Watertable aquifer is a synonym for unconfined aquifer.
armour	A rocky lined bed
archaeological site	An area of archaeological features and/or artefacts indicating past human activity.
artefact	Anything made by human workmanship, particularly by previous cultures (such as a chipped or modified stone used as a tool).
Australian Height Datum (ADH)	National reference for the relative height measurement in Australia.

Average Middle Thread Distance (AMTD)	The distance from the mouth of the river to a specific point
Average Recurrence Interval (ARI)	The average or expected value of the period between exceedances of a given variable.
background scatter	Background scatter is artefactual material which is *insufficient either in number or in association* with other material to suggest focused activity in a particular location.
basalt	Fine-grained igneous rock deposited by flows from volcanoes and typically forming large plains.
baseflow	Water flow in a river or stream that does not arise directly from rainfall run-off. The base flow consists mainly of the outflow of groundwater and the slow release of water from bogs, swamps and snowfields.
batholith	Any large intrusive mass of igneous rock.
benthic	Of, or pertaining to, animals or plants living at the bottom of the sea or other body of water.
benthos	Animals and plants that live on or in association with the bed of a sea, lake or river.
best practice	Implies continual improvement to maintain maximum performance.
bioaccumulation	A process that includes bio-concentration (whereby chemical substances enter aquatic organisms through the gills or epithelial tissue directly from the water) and uptake of chemical residues from dietary sources.
biodiversity	The variety of all life forms; the different plants, animals and micro-organisms, the genes they contain and the ecosystem of which they form a part.
biogeographic	Related to the geographical distribution of living things.
bioindicators	The use of organisms to monitor a particular process or event.
biodegredation	Breakdown of substances by microorganisms, particularly bacteria and fungi.
biological remediation	Treatment of contaminated soil by the use of naturally-occurring bacteria to break down organic compounds.
biomass	Quantity of living organic matter
biota	The totality of plants and animals of a specific area.
borrow pit	A small excavation providing earth to be used as a construction material.
brine	Very saline water
bund	An embankment constructed around an area to prevent the inflow or outflow of liquids. Also called Bunding.
carbonate	A group of oxide minerals comprising mainly carbon and oxygen. Often composed of the skeletal remains of marine or freshwater organisms. Limestone (Calcium carbonate) is a common example of a carbonate mineral.
catadromous	Fish species that inhabit freshwater for feeding and refuge but move into estuarine and salt for breeding.
catchment protection system	The total area from which a river or waterway collects surface water runoff.

Category 1 failure impact rating	A category of referable dam under *Water Act 2000 (Qld)*. The population at risk has been determined as between 2 and 100 persons.
Category 2 failure impact rating	A category of referable dam under *Water Act 2000 (Qld)*. The population at risk has been determined as greater than 100 persons
clastic	Rock of sediment composed mainly of broken fragments derived from pre-existing rocks or minerals that have been transported some distance from their place of origin before being deposited.
clay	Very fine-grained sediment or soil (often defined as having a particle size less than 0.002 mm, or 2 microns, in diameter).
cloddiness	Lumps or masses of soil or earth.
coffer dams	Temporary enclosures surrounding the construction area from which water can be pumped to allow dry construction.
colluvial deposit	Deposit of weathered material soil (soil and rock) transported by gravity.
colluvium	The total area from which a river or waterway collects surface water run-off.
community	A group of organisms of a number of different species sharing a habitat and interacting through food chains and other relationships.
confining beds	A body of material of low hydraulic conductivity that is stratigraphicaly adjacent to one or more aquifers. It may lie above or below the aquifer.
confluence	The point at which two or more streams come together.
conglomerate	Sedimentary rock consisting of poorly sorted grains (typically pebbles surrounded by finer materials, such as sand or silt).
consolidate	The process or processes by which loose, soft or liquid earth materials (e.g. sand) become firm and coherent (e.g. sandstone).
contour banks	Banks of soil placed on slopes to prevent erosion.
corrosion	The destructive conversion of a metal to a metallic oxide through exposure to air, moisture or chemicals.
culvert	Large pipe or channel carrying water underneath a structure (e.g. a road or railway track) or underneath the ground.
dam	AN artificial barrier, together with appurtenant works, constructed for storage, control or diversion water, other liquids, silt, debris or other liquid –borne material.
Dam crest floods	Floods which raise the storage to its maximum safe level. This is analysed for both cases of dam break and no dam break.
Dam Owner	Any person, organisation or entity legally deemed to be the owner of a dam.
demersal (sp?)	Living near the bottom
detrivores	Organisms that feed on dead organic material
diadromous	Fish species that migrate between sea and freshwater
diorite	A course-grained igneous rock.
diurnal	Occurring daily.
draw down	A lowering of the watertable of an unconfined aquifer or the potentiometric surface of a confined aquifer caused by pumping of the groundwater from wells.

duplex soil	A soil where the profile has a sharp change of texture between A and B horizons (sand, clay, silt, etc.); usually has a clayey B horizon.
easement	A right held by the Proponent to make use of the land of another, for example, for the installation and operation of a pipeline. Also referred to as a right of way.
ecological sustainable development (ESD)	Development that improves the quality of life in a way that maintains the ecological processes on which life depends.
ecology	The science dealing with the relationship between living things and their environment.
Ecosystem	A physio-chemical environment containing a community of organisms
Emergency Action Plan (EAP)	A continually updated set of instructions and maps to deal with emergency situations ot unusual occurences at the dam.
Emerson Aggregate + Test (EAT)	A soils test which grades soil aggregates according to their stability in water.
endangered	Species in serious risk of disappearing from the wild state within one or two decades if present land use and other casual factors continue to operate.
environment	The term 'environment' is used in the broadest sense to include physical, biological, cultural and sociological aspects.
environmental impact assessment procedures	Federal or State requirements that must be followed to enable approval to be obtained for a project to proceed.
ephemeral	A stream that flows briefly only in direct response to precipitation in the immediate locality and the channel of which at all times above the watertable.
erosion	The process by which material (such as rock or soil) is worn away or removed (as by wind or water).
failure	The uncontrolled release of the contents of a dam through collapse of a dam or some part of it, or the inability of a dam to perform functions such as water supply, prevention of excessive seepage or containment of hazardous substances.
feral	An introduced or domestic animal living in the wild.
flotation	A process where microscopic air bubbles are attached to particles in water to float them to the surface.
foundation	The undisturbed material on which the dam structure is placed.
fluvial	Relating to, or formed by, a stream or river.
flow regime	The variation in flow characteristics, such as volume, for a particular stream over time.
fold	A flexure of rock strata into arches and troughs, produced by earth movements.
Full Supply Level (FSL)	The maximum normal operating water surface level of a reservoir.
Geographic Information System (GIS)	A computer-aided system for storing and reproducing information related to the Earth's surface.
geomorphology	The description and interpretation of landforms.
geotechnical	Fabric for placing on ground surfaces to minimise erosion.

gilgai	Pockmarked surface associated with some clayey soils and consisting of hummocks and hollows of varying size, shape and frequency. The effect is caused by the shrinking and swelling of deep subsoils over time, due to changes in soil moisture content.
greenhouse gases	Gases such as carbon dioxide and methane which, when dispersed in the atmosphere, tend to trap heat
groundwater	The water contained in interconnected pores located below the watertable in an unconfined aquifer or located in a confined aquifer.
Hazard	The potential for loss of life, property or services
Hazchem	Abbreviation used for the hazardous chemical substances coding system used in the *Australian Code for the Transportation of Dangerous Goods by Road and Rail*. The system is defined in the Australian Standard AS 1216 and uses a classification and labelling system adopted by the United Nations.
homogenous	Pertaining to a substance having identical characteristics everywhere. A synonym is uniform.
humidity	The condition of the atmosphere in relation to the water vapour content.
hydraulic	Of or relating to water or other liquid in motion; operated, moved, or effected by water or liquid.
hydraulic conductivity	A coefficient of proportionality describing the rate at which water can move through a permeable medium. The density and kinematic viscosity of the water must be considered in determining hydraulic conductivity.
hydrogeology	The study of the interrelationship of geologic materials and processes with water, especially groundwater.
infrastructure	The supporting installations and services that supply the needs of the project.
Initial Advice Statement (InAS)	A document used to initiate the environmental impact assessment procedures of the Queensland Government.
input-output analysis	An economic model for the analysis of the output, income and employment effects associated with a development activity at regional, State and national level.
in-situ	A term to distinguish material (e.g. rocks, minerals, fossils and living organisms, etc.) found in their original position of formation, deposition or growth, as opposed to loose, disconnected, or derived material.
intermittent	A stream in which the flow is seasonal, usually in response to rainfall in the immediate area (see ephemeral).
keeping place	A facility to house or store.
L_{10}(dB(A))	The overall A-weighted sound pressure level exceeded for 10% of the measurement period. Used to characterise noise.
laterite	A soil or rock layer composed mainly of hydrated iron oxide and formed as a product of weathering.
leachate	The concentrated fluid containing dissolved material as a result of the downward movement of percolating water through soil or waste.
lentic	Standing water
listed species	A plant or animal included in a schedule of vulnerable, rare or endangered biota, such as the schedules in the *Environmental Protection Act 1994 (Cth)* or the species sections in the *Nature Conservation (Wildlife) Regulation 1994 (Qld)*.

littoral	Inhabiting bottom of sea or lake near shore, roughly within a depth to which light and wave action reach.
loam	Medium-textured soil composed of approximately 10% to 25% clay, 25% to 50% silt and less than 50% sand.
lotic	Running water
lucastrine	Lake-like
macrofauna	Free-living animals large enough to be retained by a 1 mm mesh.
macrophyte	A large aquatic plant.
metamorphic rock	A rock that has had its structural and chemical composition transformed by exposure to extremes of heat and/ or pressure.
migrant	An animal which moves periodically from one region to another.
model calibration	The process by which the independent variables of a digital computer model varied in order to calibrate a dependant variable such as an hydraulic head against a known value such as a watertable map.
mudstone	Sedimentary rock composed of varying or undetermined proportions of clay, silt and sand particles.
multiplier	Measurement of the total change in economic activity as a result of a change in activity in a particular industry sector (i.e. direct effects plus flow-on effects).
nomadic	An animal which moves from place to place depending on environmental conditions (e.g. food supply).
non-filterable residue (NFR)	All inorganic and organic material suspended in water; measured in mg/L
noxious	Introduced pest species.
nutrient	A substance which provides nourishment for living organisms.
organic compounds	Carbon-based compounds. Organic compounds are the basis of living matter, and which include plant material, amino acids, oils, etc.
Operational floods	These floods would not endanger the dam but could endanger life, property or the environment downstream
permeability	The capacity of rock to transmit fluid.
pH	The degree of acidity or alkalinity measured on a scale of 1 to 14 with 7 as neutral. From 0 to 7 is acidic; from 7 to 14 is alkaline.
piezometer	A small diameter-cased bore used for groundwater level measurements.
porosity, primary	The porosity that represents the original pore openings when a rock or sediment formed.
porosity, secondary	The porosity that has been caused to by fractures or weathering in a rock or sediment after it has been formed.
poorly known	Species that are suspected, but not definitely known, to belong to any of the categories of Endangered, Vulnerable or Rare.
pressure	The force that a fluid (liquid or gas) exerts uniformly in all directions within a vessel, pipe, hole in the ground, and so forth.

Probable Maximum Flood (PMF)	The flood resulting from PMP and, where applicable, snow melt, coupled with the worst flood-producing catchment conditions that can be realistically expected in the prevailing meteorological conditions
Probable Maximum Precipitation (PMP)	The theoretical greatest depth of precipitation for a given duration that is physically possible over a particular catchment area.
Recommended Design Flood (RDF)	The flood event which has the recommended annual exceedance or proportion of PMF inflow and which produces the highest flood for the dam.
proponent	One who puts forward a proposition or proposal.
rare	A native plant or animal species with a relatively large population in a restricted range or small populations thinly spread over a wider range.
recharge area	An area in which there are downward components of hydraulic head in the aquifer. Infiltration moves downward into deeper parts of the aquifer in a recharge area.
referral Agencies	Agencies which are advised by Department of State Development about the Terms of Reference and acceptability of the Environmental Impact Study. They are not referral agencies in regards to the purpose of the Integrated Planning Act 1997.
Referable Dam	A Dam is referable dam if: - a failure impact assessment is required to be carried out for the dam - the assessment states that the dam has a category 1 or 2 failure impact rating.
rehabilitation	Making the land useful again after a disturbance. It involves the recovery of ecosystem functions and processes in a degraded habitat.
Remedial action	Any action required to rectify a deficiency to an adequate safety standard
remnant vegetation	Patches of vegetation amongst a clearing.
residual soils	Soils which have developed from *in-situ* parent material. restoration.
riparian	Pertaining to, or situated on the bank of, a body of water, especially a watercourse such as a river.
Risk	The probability of an adverse event occurring. The likelihood of a dam failure with adverse consequences (chance of failure to perform, or chance of harm are alternative definitions).
rooting zone	Zone within soil profile where plant roots predominate.
routing	Choosing the location of a pipeline, road or other form of linear infrastructure development.
salinity	The total content of dissolved solids in groundwater, commonly expressed as parts of dissolved solids per million parts of solution (ppm), or milligrams of dissolved solids per litre of solution (mg/L). The significance of salinity depends on its nature as well as the amount of the dissolved solids.
sand	Sediment composed of particles within the size range 63 microns to 2 millimetres.
sandstone	Sedimentary rock composed of abundant rounded or angular fragments of sand set in a fine-grained silt or clay and more or less firmly united by a cementing material.
scarred trees	Trees marked by man, specifically by previous indigenous populations.
scouring	The action of removing sediment from stream banks, particle by particle. This is a more destructive process than collapse when viewed over time due to incremental effects.

sediment	Unconsolidated, fine-grained material (typically derived from the weathering of rocks), that is transported by water and settles on the floor of seas, rivers streams and other bodies of water.
sedimentary rock	Rock formed by the consolidation of sediment.
seepage	The unregulated escape of water through, under or around the dam.
seismic activity	Earth movement (e.g. an earthquake).
sensitive receptor	Person or persons potentially affected by an impact.
sheet erosion	Water erosion that removes a thin, relatively uniform layer of soil from a flat-lying, or gently inclined area of land.
silcrete	A rock type of sand and gravel cemented by silica. It is generally extremely hard.
silt	A sediment with particles finer than sand and coarser than clay (i.e. 2 to 63 microns).
siltation	The deposition or accumulation of the silt that is suspended throughout a body of standing water.
siltstone	Silt that has consolidated into rock.
slurry	A mixture of liquid and solids.
sodic	Having a high sodium content.
soil stratum	Layers of soil in a soil profile that are distinguishable from one another on the basis of colour, texture or other properties.
species	A taxonomic grouping of organisms which are able to interbreed with each other but not with members of other species.
species richness	A botanical term indicating a measure of the number of species of plants or animals occurring in a given area.
Spillway	A weir, channel, conduit, tunnel, gate or other structure designed to permit discharges from the dam/ reservoir when pondage levels rise above full supply level.
stakeholder	Person/s, parties, or organisations with specific interests with the project.
sub-littoral	The shore zone from the lowest water level to the lower boundary of plant growth.
subcatchment	A smaller area within a catchment drained by one or more tributaries of the main water body.
“sunny day” failure	Floods caused by unexpected failure of the dam. The may happen any time (eg earthquake action) and may not involve a rain fall event.
taxa	Taxonomic group of any rank, as species, family, class, order
temperature inversion	Air temperature usually decreases with height. However, the temperature sometimes increases with height in certain layers. Inversions may be elevated, ie the inversion occurs aloft, or may be surface-based.
threatened	A collective term for native plants and animals which are presumed extinct, endangered and vulnerable.
Toe of Dam	The junction of the downstream (or upstream) face of the dam with the ground surface (foundation). Sometimes “Heel” is used to define the upstream toe of a concrete gravity dam.
Total Dissolved Solids (TDS)	The concentration of common ions found in water and reported by volume (mg/L).

Total Suspended Solids (TSS)	The concentration of filterable particles in water (retained on a 0.45µm filter) and reported by volume (mg/L).
transmissivity	The rate at which groundwater is transmitted at a specified hydraulic gradient through rock of a specified width.
troposphere	The lower part of the Earth's atmosphere.
Turbidity	A measure of the cloudiness of water which is determined by the amount of light scattered by suspended particles.
unconformity	An interruption or break in deposition. Structurally, an unconformity may be regarded as a planar structure separating older rocks below from younger rocks above.
vertisol	A heavy textured soil.
vulnerable	A species of native wildlife, in the wild, whose ability to continue to survive is threatened by exposure to a threatening processes, such as habitat destruction, human exploitation or disease.
vulnerable species	Species not presently rare or endangered but at risk of disappearing from the wild over a long period through continued depletion.
waste	Any gas, liquid, solid or energy or a combination of wastes that is surplus to, or unwanted from, any industrial, commercial or domestic or other activity, whether or not of value.
wastewater	Water used in a process to carry unwanted materials away or process water that can no longer be used or is surplus to the process.
wetlands	Low-lying areas regularly inundated or permanently covered by shallow water. Usually important areas for birds and other wildlife.