Government of **Western Australia**
Department of **Mines and Petroleum**

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3544/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **GMA Garnet Pty Ltd**

1.3. Property details

Property: Mining Lease 70/927
Mining Lease 70/856
Local Government Area: Shire of Northampton
Colloquial name: Port Gregory Mine

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
33.227		Mechanical Removal	Mineral Sand Mining

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard Vegetation Associations have been mapped at a 1:250,000 scale for the whole of Western Australia and are useful to look at vegetation extent in a regional context. The following Beard Vegetation Association is located within the proposed clearing area (GIS Database): 371: Low forest; *Acacia rostellifera.* The vegetation of the majority of the application area has been described as remnants of recently grazed *Acacia rostellifera* low woodland and exotic pasture grasses and weeds (BSD Consultants, 1996). During a site visit the assessing officer confirmed that the application area was *Acacia rostellifera* low forest. The understorey has been grazed in the past and is comprised predominantly by weeds with a few native species namely *Rhagodia baccata* and *Styloblasium spathulatum* (DAFWA, 2010).	GMA Garnet has applied to clear up to 34.938 hectares within an area of 34.938 hectares for the purposes of mineral sand mining. The application area is located approximately 12 kilometres north of Port Gregory (GIS Database). Clearing will be by mechanical means.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994). to Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).	The vegetation condition has been determined by the assessing officer based on a site visit and information from BSD Consultants (1996).

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposal may be at variance to this Principle

The application area occurs within the Geraldton Hills subregion of the Geraldton Sandplains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). At a broad scale vegetation can be described as sand heaths with emergent *Banksia* and *Actinostrobus,* York Gum woodlands on limestones depending on depth of coastal-sand mantle, low closed forest of *Acacia rostellifera* (now cleared) on alluvial plains of Greenough and Irwin River (behind beach dune system south of Geraldton) (CALM, 2002).

The application area consists of *Acacia rostellifera* low forest with a disturbed understorey. *Acacia rostellifera* forest has been identified as being a rare feature within this subregion (CALM, 2002). The majority of the understorey consists of agricultural weeds resulting in the application area being in a predominately 'degraded' condition.

Given the application area consists largely of *Acacia rostellifera* and weed species, it is not likely to represent an area of high floristic diversity. No Declared Rare or Priority Flora species have been recorded, however, no targeted searches of the application area have been carried out (GIS Database). Given its degraded state, the application area is not likely to provide as significant habitat for rare and priority flora as the adjacent Utcha Well Nature Reserve.

Similarly, the degraded state of the application area is likely to result in there being a low level of faunal diversity. The application area may provide an ecological linkage between the Utcha Well Nature Reserve and other areas of remnant vegetation, however, the link is not likely to be a strong one.

Whilst the application area is representative of a rare vegetation association, there is a larger area of this vegetation in a better condition in the adjacent Utcha Well Nature Reserve.

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology CALM (2002)
GIS Database
- Declared Rare and Priority Flora
- IBRA WA (Regions – Sub Regions)

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments **Proposal may be at variance to this Principle**
No fauna surveys have been conducted within the application area in the past 15 years. A biological survey of the Utcha Well Nature Reserve was conducted by Ecologia (1995) in December 1994 as part of an assessment for the upgrade of the Horrocks to Kalbarri road. This broader survey recorded 56 species of bird, 9 species of mammal and 12 species of reptile (Ecologia, 1995). Six of the mammal species were introduced.

There is one known occurrence of conservation significant fauna within the local area (10 kilometre radius), namely the Australian Bustard (*Ardeotis australis*) (DEC Priority 4 listing) (DEC, 2010). This was recorded within the adjacent Utcha Well Nature Reserve so it would not be unexpected for the species to be found within the application area (GIS Database). The Australian Bustard is a nomadic bird that is found throughout most of the state (Johnstone and Storr, 2004). Given the degraded nature of the application area, it is not likely to represent significant habitat for this species.

There is the potential that application area may provide an ecological linkage. The application area is situated on intermediate slopes between the dune system in the east and the coastal plains in the west. The majority of these intermediate slopes have been cleared for agriculture (GIS Database). The application area represents the best connection of these areas for several kilometres in either direction. However, the understorey within the application area is comprised almost wholly of agricultural weeds. It has been noted that open canopies over a highly disturbed understorey may only be of value to highly mobile species (Molloy et al., 2009). It has been indicated that even in modestly cleared areas, agricultural clearing presents a significant barrier to movement of small lizards and arthropods (Molloy et al., 2009). The George Grey Road passes through the middle of the application area and the Utcha Well Nature Reserve, further limiting small mammals and lizards from moving through the area. During a site visit, the assessing officer observed several bird species and kangaroos passing through the application area. This suggests that the application area is still used by some fauna, however, there is a fence at the boundary of George Grey Road which will further limit fauna movement to the Nature Reserve. Whilst there are several barriers preventing fauna movement, the application area is still the only remaining remnant of vegetation on the mid-slopes in the local (3 kilometre radius) area, and may provide a linkage for some highly mobile fauna.

Besides providing a linkage to the Utcha Well Nature Reserve, the application area is not likely to have significant habitat values for the fauna of the local area given its mostly degraded state.

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology DEC (2010)
Ecologia (1995)
Johnstone and Storr (2004)
Molloy et al. (2009)
GIS Database
- Hutt 50cm Orthomosaic – Landgate 2006
- Threatened Fauna
- DEC Tenure

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments **Proposal may be at variance to this Principle**
According to available databases, there are no records of Declared Rare Flora (DRF) or Priority Flora within the application area (GIS Database). A biological survey of the Utcha Well Nature Reserve was conducted by

Ecologia (1995) in December 1994 as part of an assessment for the upgrade of the Horrocks to Kalbarri road. This survey did not record any DRF or Priority Flora within the application area.

There are records of five species of DRF within 20 kilometres of the application area with the nearest known record approximately 12.5 kilometres west of the application area (GIS Database). Based on known habitats for these species, it is not expected that they would be occurring within the application area (Western Australian Herbarium, 2010). There is a record of Priority 1 species *Melaleuca huttensis* within the same Beard Vegetation Association approximately 8.3 kilometres north of the application area (GIS Database). There was also a record of the species approximately 37 kilometres south of the application area on the same soil type (GIS Database). This species was only described in 1999, so it may have been overlooked during the 1994 survey (Western Australian Herbarium, 2010). During a site visit the assessing officer did not observe any Melaleucas within the application area.

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology

Ecologia (1995)
Western Australian Herbarium (2010)
GIS Database
- Declared Rare and Priority Flora
- Pre-European Vegetation
- Soils, Statewide

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments

Proposal is not likely to be at variance to this Principle

According to available databases there are no Threatened Ecological Communities (TEC's) within the application area. The nearest known TEC is located approximately 100 kilometres south-east of the application area (GIS Database).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

GIS Database
- Threatened Ecological Sites
- Threatened Ecological Sites Buffered

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments

Proposal is at variance to this Principle

The application area falls within the Geraldton Sandplains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 42.77% of Pre-European vegetation remains (see table) (GIS Database; Shepherd, 2007).

The vegetation of the application area has been mapped as Beard Vegetation Association 371: Low forest; *Acacia rostellifera* (Shepherd, 2007).

According to Shepherd (2007) approximately 10.1% of Beard Vegetation 371 remains at a state, bioregion and subregional level. This is below the 30% threshold below which species loss appears to accelerate exponentially (EPA, 2000). Vegetation Associations with representations below 30% within the bioregion are classed as being critical assets.

The proposed clearing of 34.938 hectares of Beard Vegetation Association 371 will reduce the current extent to approximately 9.9%. This will change the conservation status of this Vegetation Association from Vulnerable to Endangered. Should a condition be implemented excluding clearing of the western 20 metres of the application area, the proposed clearing will be 33.227 hectares. This would result in the current extent changing from 10.1% to 10%, which is still 'Vulnerable'.

The condition of the vegetation was mostly 'degraded' with small parts of the application area that could be classified as 'good'. The application area has been grazed in the past and understorey is predominantly agricultural weeds. The application is not likely to return to a 'good' condition without intensive management. Rehabilitation work previously carried out by GMA Garnet suggests that regeneration of *Acacia rostellifera* is easily achieved by replacing the topsoil (BSD Consultants, 1996). If the area was rehabilitated and the weeds removed, it may result in the application area being in better condition than what is currently present.

Where native vegetation clearing proposals will impact upon a critical asset it is advised that offsets are required. The Environmental Protection Authority's Position Statement No. 9 '*Environmental Offsets*' defines environmental offsets to be 'environmentally beneficial activities undertaken to counterbalance an adverse environmental impact, aspiring to achieve no net environmental loss or a net environmental benefit outcome'. Critical assets are defined as 'the most important environmental assets in Western Australia that must be fully protected and conserved for the state to meet its statutory requirements and to remain sustainable in the longer term' (EPA, 2006).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves (and post clearing %)*
IBRA Bioregion – Geraldton Sandplains	3,136,024	1,341,266	~42.77	Depleted	15.35 (35.58)
IBRA Subregion – Geraldton Hills	1,964,255	845,822	~43.06	Depleted	13.89 (32.15)
Local Government – Northampton	1,258,676	909,535	~72.26	Least Concern	14.66 (20.26)
Beard veg assoc. – State					
371	32,816	3,315	~10.1	Vulnerable	0.8 (6.02)
Beard veg assoc. – Bioregion					
371	32,808	3,315	~10.1	Vulnerable	0.81 (6.02)
Beard veg assoc. – Subregion					
371	32,807	3,315	~10.1	Vulnerable	0.81 (6.02)

* Shepherd (2007)
** Department of Natural Resources and Environment (2002)

Options to select from: Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment 2002)

Presumed extinct	Probably no longer present in the bioregion
Endangered+	<10% of pre-European extent remains
Vulnerable+	10-30% of pre-European extent exists
Depleted+	>30% and up to 50% of pre-European extent exists
Least concern+	>50% pre-European extent exists and subject to little or no degradation over a majority of this area

Based on the above, the proposed clearing is at variance to this Principle. In accordance with EPA Position Statement No. 9, it is recommended that should a clearing permit be granted, a condition be imposed requiring the proponent to develop and implement an environmental offset within the Geraldton Hills IBRA subregion. The environmental offset proposal must be endorsed by the decision maker prior to any native vegetation clearing being undertaken, and must focus on offsetting the loss of critical assets (Beard Vegetation Association 371).

Methodology

BSD Consultants (1996)
EPA (2000)
EPA (2006)
Department of Natural Resources and Environment (2002)
Shepherd (2007)
GIS Database
- IBRA WA (Regions – Sub Regions)
- Pre-European Vegetation

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments

Proposal is not likely to be at variance to this Principle

According to available databases, there are no watercourses or wetlands within the application area (GIS Database). There is an area subject to inundation approximately 250 metres west of the application area (GIS Database). During a site visit the assessing officer observed that the vegetation in the application area is not associated with this wet area. The proposed clearing is not expected to impact any vegetation growing in or association with a wetland or watercourse.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

GIS Database
- Hydrography, linear

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments

Proposal is at variance to this Principle

The application area is located on the Tamala Limestone Unit which overlies the Tumblagooda Sandstone Unit of the Perth Basin (Playford et al., 1976). The landforms of the application area are part of the Tamala North 1

subsystem, which is described as undulating rises and swales associated with coastal parabolic dunes, featuring some limestone outcrop (DAFWA, 2010). The application area itself is described as sloping sandplain (DAFWA, 2010).

The soils of the application area have been described as deep sands (DAFWA, 2010). These deep sands present are internally draining with no obvious surface drainage from the area (DAFWA, 2010). The proposed clearing is not likely to contribute to water erosion given the deep sands would facilitate high infiltration rates with little runoff (DAFWA, 2010).

At a broad scale the surface soil within the application area pH is 5.5 – 6.0 and there is no known occurrence of acid sulphate soils (CSIRO, 2009). As the application area is already within a predominantly cleared agricultural landscape, it is not likely that the proposed clearing will contribute to a rise in groundwater table and salinity (DAFWA, 2010).

The deep sands of the application area have a high to very high wind erosion risk (DAFWA, 2010).

Based on the above, the proposed clearing is at variance to this Principle.

GMA Garnet has advised (pers comm. March, 2010) that before an area is mined it is cleared of larger vegetation using a raised blade technique. This is done before winter to allow rain to wash into the soil. The proposed timing and technique of the clearing will preserve root stock and encourage grass cover on the soil surface, thereby binding soils. This helps control erosion until mining commences.

Methodology CSIRO (2009)
DAFWA (2010)
GMA Garnet (2010)
Playford et al. (1976)

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments **Proposal may be at variance to this Principle**
According to available databases, the application area is not located within any conservation area or DEC managed lands (GIS Database). The Utcha Well Nature Reserve is located approximately 50 metres west of the application area (GIS Database). The application area was previously part of the Utcha Well Nature Reserve. In October 2006 it was excised from the nature reserve as part of a land swap that resulted larger area of land that is in much better condition than that of the application area being included into the Utcha Well Nature Reserve.

The proposed clearing may disrupt an ecological linkage between the nature reserve and other areas of remnant vegetation. It is recommended that a buffer of vegetation be kept between the proposed clearing and George Grey Road. This will help reduce potential edge effects of the Nature Reserve. Should a permit be granted, it is recommended that a condition be imposed excluding 20 metres of the application area on the most western side.

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology GIS Database
- DEC Tenure

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments **Proposal is not likely to be at variance to this Principle**
According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

There are no watercourses or wetlands within the application area (GIS Database). The average annual rainfall for Kalbarri (approximately 41 kilometres north) is 351.3 millimetres and the average annual evaporation rate is 2,600 millimetres (BoM, 2010; GIS Database). The soils within the application area are likely to facilitate high infiltration so there is likely to be little surface water runoff into low lying areas west of the application area (DAFWA, 2010).

The groundwater salinity of the application area is between 1,000 – 3,000 milligrams per litre Total Dissolved Solids (TDS) (GIS Database). This is considered to be brackish. As the application area is already within a predominantly cleared agricultural landscape, it is not likely that the proposed clearing will adversely impact on groundwater quality (DAFWA, 2010).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology BoM (2010)
DAFWA (2010)

GIS Database
- Evaporation Isopleths
- Groundwater Salinity, Statewide
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSA's)

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments

Proposal is not likely to be at variance to this Principle

The soils of the application area facilitate high infiltration rates with little surface runoff (DAFWA, 2010). The annual average evaporation rate is over 7 times the annual average rainfall (BoM, 2010, GIS Database). Despite the application area being on sloping sandplain, there is likely to be little surface water runoff. The proposed clearing is not likely to cause an increase in flooding to areas subject to inundation west of the application area.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

BoM (2010)
DAFWA (2010)
GIS Database
- Evaporation Isopleths

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

The clearing permit application was advertised on 8 Feruary 2010 by the Department of Mines and Petroleum, inviting submissions from the public. There was one submission received stating no objection to the proposal.

There is one native title claim over the area under application; WC00/001 (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenements have been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993.*

According to available databases there is one registered Aboriginal Site of Significance within the application area (GIS Database). It is the proponents' responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is the proponents' responsibility to liaise with the Department of Environment and Conservation and the Department of Water to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

Methodology

GIS Database
- Native Title Claims
- Sites of Aboriginal Significance

4. Assessor's comments

Comment

The proposal has been assessed against the Clearing Principles, and the proposed clearing is at variance to Principles (e) and (g), may be at variance to Principles (a), (b), (c), and (h) and is not likely to be at variance to Principles (d), (f), (i) and (j).

Should the permit be granted it is recommended that conditions be imposed on the permit for the purposes of weed management, rehabilitation, environmental offsets, record keeping and permit reporting.

5. References

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6. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEC	Department of Environment and Conservation
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DoE), Western Australia.
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia.
DMP	Department of Mines and Petroleum, Western Australia.
DoE	Department of Environment, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
IBRA	Interim Biogeographic Regionalisation for Australia.
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	Threatened Ecological Communities.

Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-

P1	**Priority One - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P2	**Priority Two - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P3	**Priority Three - Poorly Known taxa**: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
P4	**Priority Four – Rare taxa**: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.

R **Declared Rare Flora – Extant taxa** *(= Threatened Flora = Endangered + Vulnerable)*: taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

X **Declared Rare Flora - Presumed Extinct taxa**: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

Schedule 1 **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.

Schedule 2 **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.

Schedule 3 **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.

Schedule 4 **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). *Priority Codes for Fauna*. Department of Conservation and Land Management, Como, Western Australia} :-

P1 **Priority One: Taxa with few, poorly known populations on threatened lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P2 **Priority Two: Taxa with few, poorly known populations on conservation lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P3 **Priority Three: Taxa with several, poorly known populations, some on conservation lands**: Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P4 **Priority Four: Taxa in need of monitoring**: Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.

P5 **Priority Five: Taxa in need of monitoring**: Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999)*

EX **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.

EX(W) **Extinct in the wild:** A native species which:
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.

CR **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.

EN **Endangered:** A native species which:
(a) is not critically endangered; and
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

VU **Vulnerable:** A native species which:
(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

CD **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.