



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 3627/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Magellan Metals Pty Ltd

### 1.3. Property details

Property: Mining Lease 53/502  
Local Government Area: Shire of Wiluna

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
9.58		Mechanical Removal	Mineral Production

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

**Vegetation Description** Beard Vegetation Associations have been mapped at a scale of 1:250,000 for the whole of Western Australia. One Beard Vegetation Association is located within the application areas (Shepherd, 2007):

**Beard Vegetation Association 18:** low woodland; mulga (*Acacia aneura*).

Hart, Simpson and Associates conducted a flora and vegetation survey for an area that included the application areas in September and October 1998 and after summer rain in March 1999. This survey identified the following eight vegetation units within the survey area (Hart, Simpson and Associates, 1999):

#### **Vegetation Unit 1:**

On the top of the stony plateau the mulga is mixed with the minni ritchi *Acacia grasbyi* and the shrubs are generally less than 5 metres tall and can be as short as 2 metres and together give a cover of 10 – 30%. There are emergent *Acacia pruinocarpa* and *Grevillea berryana*, and rarely small trees of *Eucalyptus kingsmillii*. The small shrub understorey is generally sparse and variable. The species vary greatly between sites, but the most common are *Eremophila forrestii*, *Eremophila punctata*, *Eremophila jucunda* and *Solanum lasiophyllum*. The ground stratum is dominated by spinifex of *Triodia melvillei*. This is patchy and gives a cover of 0 – 10%. Other grasses are rare. At the time of the field work there was a large ephemeral flora of herbs, mainly daisies. These are not normally present. Within the plateau vegetation there are very stony patches which have a vegetation of little more than scattered shrubs of *Thryptomene maisonneuvei*, *Homalocalyx thryptomenoides* and less commonly *Thryptomene decussata* with a few herbs.

#### **Vegetation Unit 2:**

Towards the east the plateau becomes less sandy and the vegetation becomes reduced to mulga and lower shrubs without the *Acacia grasbyi* or the spinifex. The soil is more stony and *Acacia quadrimarginea* becomes more common, but the total flora is less diverse. Very few additional species were seen in this area, and they are all common.

#### **Vegetation Unit 3:**

Along the breakaways there is limited flora. *Acacia grasbyi* is replaced by *Acacia quadrimarginea* and the spinifex disappears. Only three species were recorded only on the breakaways: the shrubs *Indigofera brevidens*, *Minuria cunninghamii* and *Prostanthera campbellii*. These three are all common and widespread species.

#### **Vegetation Unit 4:**

Below the breakaway to the south there are stony slopes. *Acacia grasbyi* and the spinifex do not occur here, but the vegetation is more variable than on the plateau. *Ptilotus obovatus* is a common shrub in one site, and there is a stony patch with a vegetation of almost nothing but the spinifex *Triodia concinna*. The other shrub species appear to be similar to those on the plateau, with the most common species being *Eremophila forrestii* and *Eremophila jucunda*, and there is a similar ground stratum dominated by daisies and a few herbs. The soils are very stony towards the plateau.

#### **Vegetation Unit 5:**

Below the plateau to the north there is an area of sandy loam soils, and in some areas this soil becomes sand rather than sandy loam. This area has a vegetation of taller mulga, up to 7 metres tall, with occasional emergent *Acacia pruinocarpa* and trees of *Eucalyptus kingsmillii*. The small shrub understorey is sparse and variable, with the most common species being *Eremophila forrestii*. The same spinifex seen on the plateau, *Triodia melvillei*, occurs and is sometimes more dense, with up to 30% cover in favourable sites but on average less than 10%

cover. Other grasses are more common here than on the more stony soils, with increased numbers of *Monachather paradoxa*, *Thyridolepis multiculmis* and *Eragrostis eriopoda*. These other grasses tend to occur away from the spinifex. There is also a ground stratum of herbs dominated by daisies. The most sandy sites have concentrations of a few species such as *Thryptomene maisonneuvei* and *Dicastylis brunnea*.

**Vegetation Unit 6:**

Surrounding these areas there is a loamy plain. This has a vegetation of typical mulga shrubland with a sparse cover of approximately 5% and bushes 1 – 5 metres tall. The small shrub understorey is variable. The species vary greatly between sites, but the most common are *Eremophila forrestii*, *Eremophila foliosissima* and *Ptilotus obovatus*. These shrubs are often in patches. Grasses are always scarce, with *Monachather paradoxa* the most common species, and spinifex is not present. At the time of the fieldwork there was a large ephemeral flora of herbs, mainly daisies.

**Vegetation Unit 7**

Towards Paroo Creek there is an area of mulga shrubland which is in poor condition and with a reduced understorey.

**Vegetation Unit 8**

Along Paroo Creek there is a fringing vegetation of tall mulgas with a severely reduced understorey consisting mainly of herbs. All of the shrubs are old and this vegetation is in poor condition due to grazing. Within Paroo Creek there is a wide range of vegetation types. A woodland of *Eucalyptus obtusa* is the most common, with trees to 20 metres and sometimes mixed with *Eucalyptus socialis*. *Pittosporum phylliraeoides* is also present. Mulga is common in places as a tall shrub. Other variations include tall individuals of *Hakea suberea* and *Grevillea striata* over bunch grasses including *Eriachne helmsii* and species of *Eragrostis*. The understorey is extremely variable with patches of shrubs including mulga and *Acacia tetragonophylla* and extensive areas of grasses. Weeds are also common in places. Much of this vegetation is disturbed by grazing.

**Clearing Description**

Magellan Metals (2010) proposes to clear up to 9.58 hectares of native vegetation. The application areas are located approximately 30 kilometres west of Wiluna (GIS Database).

The purpose of the proposed clearing is to expand the Magellan pit footprint area and to realign a haul road (Magellan Metals, 2010). Vegetation will be cleared by a track dozer and vegetation will be stockpiled at the perimeter of the cleared area (Magellan Metals, 2010).

**Vegetation Condition**

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

To

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).

**Comment**

The vegetation condition rating was derived from a flora and vegetation survey conducted by Hart, Simpson and Associates (1999).

**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 is not likely to be at variance to this Principle**

The application areas are located within the Eastern Murchison subregion of the Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is described by CALM (2002) as being rich and diverse in both its flora and fauna. CALM (2002) reports that most species are wide ranging and usually occur in at least one, and often several, adjoining regions.

Hart, Simpson and Associates (1999) conducted a flora and vegetation survey in 1998 and again in March 1999 following summer rains. A total of 178 plant taxa representing 39 families and 93 genera were recorded within the survey area. Hart, Simpson and Associates (1999) reports the following families as representing the majority of the flora; *Asteraceae* (32), *Poaceae* (17), *Myoporaceae* and *Mimosaceae* (11). Hart, Simpson and Associates (1999) has concluded that these results are typical of the area under the conditions experienced during and before the survey.

Hart, Simpson and Associates (1999) identified seven weed species within the survey area. The presence of introduced weed species lowers the biodiversity value of the proposed clearing areas. Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. The risk of spreading weed species can be mitigated by imposing a condition for the purpose of weed management.

Hart, Simpson and Associates (1999) conducted a fauna survey of the application areas and surrounding areas which included trapping in 1998 and March 1999. This survey recorded 25 reptile species, three native and three introduced mammal species and 54 bird species. Hart, Simpson and Associates (1999) report that this represents a good range of species but that the number of individuals recorded was small. The number of birds species recorded was reported as being good, however, the majority of them were recorded around Paroo Creek which is not in the vicinity of the application areas (Hart, Simpson and Associates, 1999).

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

**Methodology** CALM (2002)  
Hart, Simpson and Associates (1999)  
GIS Database  
- IBRA WA (Regions - Subregions)

**(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 is not likely to be at variance to this Principle**  
Hart, Simpson and Associates (1999) conducted a fauna survey of the application areas and surrounding areas which included trapping in September and October 1998 and March 1999. Hart, Simpson and Associates (1999) report that the majority of fauna habitat consists of mulga shrublands often over spinifex grasslands and within the application areas there is no riparian vegetation, wetlands, breakaways, caves or other potentially significant fauna habitat. Hart, Simpson and Associates (1999) reports that no fauna of conservation significance were recorded during the fauna surveys. The limited number of rare vertebrate fauna species occurring on the site or having the potential to occur is a result of the poor quality of the habitat available and the abundance of such habitat generally (Hart, Simpson and Associates, 1999).

Hart, Simpson and Associates (1999) report that mammals in particular are scarce in this country, especially where there has been grazing. Furthermore, Hart, Simpson and Associates (1999) states that the number of birds are limited by the small number of trees away from the creek and the lack of dense thickets, although most of the species may be occasional visitors to the area.

The habitat present within the application areas is widespread throughout the region and would therefore not represent significant habitat for any fauna species.

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

**Methodology** Hart, Simpson and Associates (1999)

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

**Comments** **Proposal is not likely to be at variance to this Principle**  
Hart, Simpson and Associates conducted a flora and vegetation survey in September and October 1998 and again in March 1999 following summer rains. This survey consisted of a desktop survey in addition to field surveys and included a targeted Rare and Priority flora search (Hart, Simpson and Associates, 1999). Furthermore, a flora and fauna assessment was undertaken in March 2010 using a grid search methodology by Magellan Metals environmental officers (Magellan Metals, 2010).

None of these surveys identified any Declared Rare Flora or Priority Flora species within the application areas (Hart, Simpson and Associates, 1999; Magellan Metals, 2010). Therefore, the proposed clearing of 9.58 hectares of native vegetation is unlikely to affect the conservation status of any conservation significant flora.

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

**Methodology** Hart, Simpson and Associates (1999)  
Magellan Metals (2010)

**(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**  
There are no known Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) within the areas applied to clear (GIS Database). The nearest known PEC is located approximately 10 kilometres south east of the application areas (GIS Database).

Hart, Simpson and Associates (1999) reports that no TECs or PECs were identified within the application areas during the flora and vegetation survey.

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

**Methodology** Hart, Simpson and Associates (1999)  
GIS Database  
- Threatened Ecological Sites

**(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 not at variance to this Principle**  
The application areas fall within the Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Shepherd (2007) reports that approximately 100% of the pre-European vegetation

still exists within this Bioregion (see table below). The vegetation within the application areas is recorded as the following Beard Vegetation Association (Shepherd, 2007):

**Beard Vegetation Association 18:** low woodland; mulga (*Acacia aneura*).

According to Shepherd (2007) approximately 100% of the vegetation association remains within the bioregion (see table below).

Therefore, the vegetation within the application areas is not a significant remnant of native vegetation within an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Murchison	28,120,590	28,120,590	~100	Least Concern	~1
Beard vegetation associations - State					
18	19,892,305	19,890,195	~100	Least Concern	~2
Beard vegetation associations - Bioregion					
18	12,403,172	12,403,172	~100	Least Concern	~0.4

\* Shepherd (2007)

\*\* Department of Natural Resources and Environment (2002)

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

**Methodology** Department of Natural Resources and the Environment (2002)  
Shepherd (2007)  
GIS Database  
- IBRA WA (Regions - Subregions)

**(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 proposed clearing areas (GIS Database). The nearest ephemeral watercourse is approximately 50 metres from one of the application areas (GIS Database).

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 not likely to be at variance to this Principle**  
The application areas and surrounding area is described by Hart, Simpson and Associates (1999) as consisting of a low stony plateau running east-west in an area of loamy plains. The soils on the plateau are sandy or skeletal with numerous stones (Hart, Simpson and Associates, 1999).

The application areas are flat areas with no watercourses within them (GIS Database). The flat topography would therefore reduce sheet flow and minimise soil erosion. Given this, it is unlikely that the clearing of 9.58 hectares of native vegetation would cause appreciable land degradation.

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

**Methodology** Hart, Simpson and Associates (1999)  
GIS Database  
- Hydrography, linear  
- Topographical Contours

**(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 is not likely to be at variance to this Principle**

The proposed clearing is not located within any conservation areas (GIS Database). The nearest Department of Environment and Conservation managed land is the Wanjarri Nature Reserve, located approximately 110 kilometres south-east of the application areas (GIS Database).

Based on the above, the proposed clearing is not likely to 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 there are no watercourses within the application areas and the application areas are located on flat ground reducing the amount of surface water runoff (GIS Database). Given the above, the proposed clearing is unlikely to cause deterioration in surface water quality.

The clearing of 9.58 hectares of native vegetation is unlikely to cause deterioration in groundwater quality or groundwater quantity.

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

**Methodology** GIS Database  
- Hydrography, linear  
- Topographical contours, statewide

**(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**

According to available databases there are no watercourses or wetlands within the application areas (GIS Database).

Natural flood events do occur in the region between December and March, following heavy rainfall (BoM, 2010), however, the clearing of 9.58 hectares of native vegetation is unlikely to increase the incidence or intensity of flood events.

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

**Methodology** BoM (2010)  
GIS Database  
- Hydrography, linear

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

**Comments**

There is one Native Title claim (WC99/024) over the area under application (GIS Database). This claim has been registered with the Native Title Tribunal on behalf of the claimant group. However, the mining tenement has 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 are no registered Aboriginal Sites of Significance within the application areas (GIS Database). It is the proponent's 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 proponent's 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.

The clearing permit application was advertised by the Department of Mines and Petroleum on 15 March 2010, inviting submissions from the public. There were no submissions received.

**Methodology** GIS Database  
- Aboriginal Sites of Significance  
- Native Title Claims

**4. Assessor's comments**

## Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is not likely to be at variance to Principles (a), (b), (c), (d), (f), (g), (h), (i) and (j) and is not at variance to Principle (e).

## 5. References

- BoM (2010) Wiluna, Western Australia. Bureau of Meteorology. <http://www.bom.gov.au/climate/dwo/IDCJDW6130.latest.shtml>. Accessed 15 April, 2010.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Hart, Simpson and Associates (1999) Magellan Mining Pty Ltd. Magellan Lead Project. Ecological Survey. Hart Simpson and Associates Pty Ltd, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Magellan Metals (2010) Clearing Permit Application Supporting Documentation. Magellan Metals Pty Ltd, Western Australia.
- Shepherd, D.P. (2007) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

## 6. Glossary

### Acronyms:

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