



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4398/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Robe River Mining Co Pty Ltd

1.3. Property details

Property: Iron Ore (Robe River) Agreement Act 1964, Mineral Lease 248SA (AML 70/248)
Local Government Area: Shire of Ashburton
Colloquial name: Mesa A project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 14 July 2011

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 for the whole of Western Australia. One Beard vegetation association is located within the application area (GIS Database):

Beard vegetation association 583: hummock grasslands, sparse shrub steppe; Kanji and *Acacia bivenosa* over hard Spinifex *Triodia basedowii* and *Triodia wiseana*.

Flora and vegetation surveys have been conducted by Biota Environmental Sciences for areas that included the application area in 2004 and 2005. A review of these surveys by Rio Tinto Iron Ore (2011) has established the following vegetation units as occurring within the application area:

STONY HILLS AND BREAKAWAYS

Vegetation Unit 1

Eucalyptus leucophloia scattered low trees over *Acacia arida* shrubland to tall shrubland over *Triodia wiseana* hummock grassland.

Vegetation Unit 2

Eucalyptus leucophloia scattered low trees over *Acacia atkinsiana* (*Acacia arida*) open shrubland to tall shrubland over *Triodia wiseana* hummock grassland.

GULLIES

Vegetation Unit 3

Acacia tumida var. *pilbarensis*, *Acacia pruinoarpa*, *Grevillea wickhamii* tall open shrubland to open scrub over *Acacia atkinsiana*, *Acacia arida* open shrubland to tall open shrubland over *Triodia wiseana* open hummock grassland and *Eriachne mucronata* scattered tussock grasses.

BROAD SHALLOW FLOW AREA

Vegetation Unit 4

Corymbia hamersleyana, *Corymbia candida* scattered low trees to low open woodland over *Acacia atkinsiana*, *Acacia ancistrocarpa* scattered tall shrubs to tall open shrubland over *Triodia epactia* open hummock grassland.

Vegetation Unit 5

Corymbia hamersleyana scattered trees with *Acacia pruinoarpa* tall scattered shrubs over *Acacia inaequilatera*, *Hakea lorea* subsp. *lorea*, *Acacia bivenosa* open scrubland over *Themeda* sp. Hamersley Station open tussock grassland with *Triodia epactia* open hummock grassland.

STONY PLAINS

Vegetation Unit 6

Corymbia hamersleyana, *Corymbia zygomphylla* scattered low trees over *Acacia trachycarpa*, *Acacia ancistrocarpa* shrubland to open heath over *Triodia lanigera* hummock grassland.

Clearing Description	Robe River Mining Company Pty Ltd (Robe River) proposes to clear up to 33.7 hectares. The application area is located approximately 80 kilometres east of Onslow (GIS Database). The purpose of the proposed clearing is for mineral production and associated activities including stockpiling of topsoil and subsoil (Robe River, 2011). Vegetation will be cleared by dozer with blade down and vegetation will be stockpiled for rehabilitation purposes (Robe River, 2011).
Vegetation Condition	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).
Comment	The vegetation condition rating was derived from flora and vegetation surveys conducted by Biota Environmental Sciences in 2004 and 2005 (Biota Environmental Sciences, 2005a; 2006a), in addition to a summary of these surveys provided by Rio Tinto Iron Ore (2011).

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 is located within the Hamersley subregion of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Hamersley subregion is described by CALM (2002) as being rich in *Acacia*, *Triodia*, *Ptilotus* and *Sida* species.

Flora and vegetation surveys have been conducted by Biota Environmental Sciences for areas that included the application area in 2004 and 2005. Biota Environmental Sciences (2006a) recorded a total of 437 taxa of native vascular flora from 160 genera belonging to 57 families over a 7,300 hectare search area. The survey conducted by Biota Environmental Sciences (2005a) recorded a total of 257 taxa of native vascular flora from 111 genera belonging to 48 families over a 296 hectare area. This level of species richness is reported as being relatively moderate in comparison to areas further east in the Hamersley Range (Biota Environmental Sciences, 2005a; 2006a; Rio Tinto Iron Ore, 2011).

Biota Environmental Sciences (2006a) and Rio Tinto Iron Ore (2011) report that one of the vegetation units within the application area (Vegetation Unit 5), is considered to hold high conservation significance as it supports *Triodia lanigera*, an uncommon species in the area. This vegetation unit covers approximately 0.4 hectares or less than 1 percent of the application area (Rio Tinto Iron Ore, 2011). Given that this vegetation unit is not restricted to the application area and that only a small proportion of it will be impacted by the proposal, it is not likely that proposed clearing will impact its local conservation significance.

The application area lies adjacent to a small portion of the 'Sand Sheet Vegetation (Robe Valley)' Priority 1 Ecological Community (PEC) (DEC, 2010 as cited by Rio Tinto Iron Ore, 2011). This community supports a unique assemblage of flora species and is not widespread in the region (Biota Environmental Sciences, 2006a; Rio Tinto Iron Ore, 2011). These sandy habitats are particularly susceptible to erosion and weed invasion following disturbance (Biota Environmental Sciences, 2006a). Rio Tinto Iron Ore (2011) reports that no vegetation types within the application area are synonymous with this PEC, however there is the potential for this community to be impacted by weed invasion, particularly Buffel Grass (*Cenchrus ciliaris*). A 50 metre buffer has been established between this community and the proposed clearing area (Rio Tinto Iron Ore, 2011).

Numerous weed species have been recorded within the survey areas (Biota Environmental Sciences, 2005a; 2006a). The presence of weed species lowers the biodiversity value of the proposed clearing area. It is important to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Fauna surveys that included the application area were conducted by Biota Environmental Sciences in 2004 and 2005. Biota Environmental Sciences (2005b) recorded a total of 97 vertebrate fauna species including 52 avifauna species, 12 mammals and 33 reptiles over a 296 hectare area. Biota Environmental Sciences (2006b) recorded a total of 181 vertebrate fauna species including 93 avifauna species, 20 mammals and 67 herpetofauna over a 7,300 hectare. Given the difference in size between the survey areas and the application area, it is expected that the proposed clearing area would have much lower fauna diversity than indicated above.

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

Methodology	Biota Environmental Sciences (2005a) Biota Environmental Sciences (2005b) Biota Environmental Sciences (2006a) Biota Environmental Sciences (2006b) CALM (2002) Rio Tinto Iron Ore (2011) GIS Database: - IBRA WA (Regions - Subregions)
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(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

Fauna surveys that included the application area were conducted by Biota Environmental Sciences in 2004 over a 296 hectare area and in 2005 over a 7,300 hectare area. The following three fauna habitats have been recorded within the application area (Biota Environmental Sciences, 2005b; 2006b; Rio Tinto Iron Ore, 2011):

- Stony slopes / gullies;
- Stony plains; and
- Broad shallow flow areas.

These habitats are widely represented within the Hamersley subregion (Biota Environmental Sciences, 2005b; 2006b; Rio Tinto Iron Ore, 2011). No significant habitats such as rocky breakaways along mesa edges, gorges, large drainage lines, scree, wooded grasslands, cracking clay (gilgai) or sand plains have been recorded as occurring within the application area (Rio Tinto Iron Ore, 2011). Fauna species including Rare and Priority fauna, may occasionally forage within the habitats of the application area, however the vegetation of the application area is unlikely to represent significant habitat for any fauna species (Rio Tinto Iron Ore, 2011).

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

Methodology Biota Environmental Sciences (2005b)
Biota Environmental Sciences (2006b)
Rio Tinto Iron Ore (2011)

(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

Flora and vegetation surveys have been conducted by Biota Environmental Sciences for areas that included in the application area in 2004 and 2005.

No Declared Rare Flora species were recorded within the application area during the flora and vegetation surveys (Biota Environmental Sciences, 2005a; 2006a).

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

Methodology Biota Environmental Services (2005a)
Biota Environmental Services (2006a)

(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) within the area applied to clear (GIS Database). The nearest known TEC is located approximately 150 kilometres south-east of the application area (GIS Database).

Biota Environmental Sciences (2006a) reports that no TECs were identified within the application area during the flora and vegetation surveys.

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

Methodology Biota Environmental Sciences (2006a)
GIS Database:
- 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 not at variance to this Principle

The application area falls within the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Shepherd (2009) reports that approximately 99.9% of the pre-European vegetation still exists within the Pilbara bioregion (see table below). The vegetation within the application area is recorded as the following Beard vegetation association (Shepherd, 2009):

Beard vegetation association 583: hummock grasslands, sparse shrub steppe; Kanji and *Acacia bivenosa* over hard Spinifex *Triodia basedowii* and *Triodia wiseana*.

According to Shepherd (2009) approximately 100% of this vegetation association still exists within the bioregion (see table below).

The vegetation within the application area is not a 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 - Pilbara	17,804,193	17,785,001	~99.9	Least Concern	~6.3
Beard vegetation associations - State					
583	243,112	243,112	~100	Least Concern	~35.3
Beard vegetation associations - Bioregion					
583	243,112	243,112	~100	Least Concern	~35.3

* Shepherd (2009)

** 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 Environment (2002)
Shepherd (2009)
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 application area (GIS Database), however, Rio Tinto Iron Ore (2011) reports that two vegetation units within the application area are associated with a broad, shallow flow area:

- *Corymbia hamersleyana*, *Corymbia candida* scattered low trees to low open woodland over *Acacia atkinsiana*, *Acacia ancistrocarpa* scattered tall shrubs to tall open shrubland over *Triodia epactia* open hummock grassland; and
- *Corymbia hamersleyana* scattered trees with *Acacia pruinocarpa* tall scattered shrubs over *Acacia inaequilatera*, *Hakea lorea* subsp. *lorea*, *Acacia bivenosa* open scrubland over *Themeda* sp. Hamersley Station open tussock grassland with *Triodia epactia* open hummock grassland.

Vegetation communities associated with ephemeral drainage lines are well represented within the Pilbara region. Given the relatively small amounts of these vegetation communities that are present within the application area, it is not deemed that the proposed clearing will have a significant impact upon any vegetation growing in association with a watercourse.

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

Methodology Rio Tinto Iron Ore (2011)
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 area is located within the Peedamulla and Robe land systems (GIS Database).

Van Vreeswyk et al. (2004) states that the Robe land system is not generally susceptible to vegetation degradation or erosion. The Peedamulla land system is primarily not susceptible to soil erosion with 95% of the system not prone to degradation; however 5% is classified as having a slight to minor chance of being susceptible to erosion (Van Vreeswyk et al., 2004).

Given that less than a third of the application area occurs within the Peedamulla land system, and that only approximately 5% of this system is susceptible to soil erosion, the proposed clearing is not considered likely to cause appreciable land degradation.

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

Methodology Van Vreeswyk et al. (2004)
GIS Database
- Rangeland land system mapping

(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 Cane River Conservation Park located approximately 35 kilometres south 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:
- 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**
The application area is not located within a Public Drinking Water Source Area (GIS Database).

The application area is located within an arid environment. No permanent waterbodies or watercourses occur within the application area (GIS Database), however, based on vegetation descriptions provided by Rio Tinto Iron Ore (2011), there may be a minor, ephemeral drainage line within the application area. Surface water runoff is only likely to occur during and immediately following significant rainfall events. The removal of 33.7 hectares of native vegetation and the shallow ground disturbance related to this clearing is unlikely to cause deterioration in the quality of surface or underground water.

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

Methodology Rio Tinto Iron Ore (2011)
GIS Database:
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSAs)

(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 within the application area (GIS Database), however, based on vegetation descriptions provided by Rio Tinto Iron Ore (2011), there are two vegetation communities that are associated with a broad shallow flow area present within the application area.

Natural flood events occur seasonally in the Pilbara region as a result of cyclonic activity and sporadic thunderstorm activity. The ephemeral watercourse within the application area could experience natural seasonal flooding from the runoff of surface water following significant rainfall events, however the proposed clearing of 33.7 hectares 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 Rio Tinto Iron Ore (2011)
GIS Database
- Hydrography, linear

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

Comments
There is one Native Title claim (WC99/12) 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 tenure 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 area (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 was advertised by the Department of Mines and Petroleum on 20 June 2011, inviting submission from the public. No submissions were received.

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

4. References

- Biota Environmental Sciences (2005a) A Vegetation and Flora Survey of Mesa A and Mesa G, near Pannawonica. Unpublished report. Biota Environmental Sciences Pty Ltd, Western Australia.
- Biota Environmental Sciences (2005b) Fauna Habitats and Fauna Assemblage of Mesa A and Mesa G, near Pannawonica. Unpublished report. Biota Environmental Sciences Pty Ltd, Western Australia.
- Biota Environmental Sciences (2006a) A Vegetation and Flora Survey of the Proposed Mesa A Transport Corridor, Warramboe Deposit and Yarrallola borefield. Unpublished report. Biota Environmental Sciences Pty Ltd, Western Australia.
- Biota Environmental Sciences (2006b) Fauna Habitats and Fauna Assemblage of the Mesa A Transport Corridor and Warramboe. Unpublished report. Biota Environmental Sciences Pty Ltd, Western Australia.
- 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.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Rio Tinto Iron Ore (2011) Statement Addressing the 10 Clearing Principles. New Topsoil / Subsoil Location for Mesa A. Rio Tinto Iron Ore Pty Ltd, Western Australia.
- Robe River (2011) Clearing Permit Application Supporting Documentation. The Robe River Mining Company Pty Ltd.
- Shepherd, D.P. (2009) 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.
- Van Vreeswyk, A.M.E., Payne, A.L., Hennig, P. and Leighton, K.A. (2004) An Inventory and Condition Survey of the Pilbara Region, Western Australia. Department of Agriculture, Western Australia.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DEC), 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 (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
EP Act	Environmental Protection Act 1986, Western Australia
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
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 Act	Rights in Water and Irrigation Act 1914, Western Australia
s.17	Section 17 of the Environment Protection Act 1986, Western Australia
TEC	Threatened Ecological Community

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.