Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3418/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Robe River Pty Ltd**

1.3. Property details

Property: *Iron Ore (Cleveland Cliffs) Agreement Act 1964;* Special Lease for Mining Operations 3116/4627, Lot 54 on Deposited Plan 241547
Local Government Area: Shire of Ashburton
Colloquial name: Pannawonica Township Pipeline

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
7.4		Mechanical Removal	Pipeline Upgrade

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 1:250,000 scale for the whole of Western Australia. Two Beard Vegetation Associations have been mapped within the application area (GIS Database; Shepherd, 2007).

603: Hummock grasslands, sparse shrub steppe; *Acacia bivenosa* over hard spinifex; and

609: Mosaic: Hummock grasslands, open low tree steppe; bloodwood with sparse kanji shrubs over soft spinifex / Hummock grasslands, open low tree steppe; snappy gum over *Triodia wiseana* on a lateritic crust.

The application area was surveyed by Rio Tinto staff on 2 September 2009 (Rio Tinto, 2009). The following vegetation types were identified within the application area:

Lower Footslopes

GpAiAanTw: *Grevillea pyramidalis, Acacia inaequilatera* high open shrubland over *Acacia ancistrocarpa* scattered shrubs over *Triodia wiseana* hummock grassland;

Plains

AiHlAbAanAcTwPcPePa: *Acacia inaequilatera*, *Hakea lorea* scattered tall shrubs over *Acacia bivenosa, A. ancistrocarpa, A. colei* open shrubland over *Ptilotus astrolasius* scattered low shrubs over *Triodia wiseana* hummock grassland over *Ptilotus alostachys, P. exaltatus* scattered herbs;

ElAteAbSgpSggSlShTwPePc: *Eucalyptus leucophloia* scattered trees over *Acacia tenuissima, A. bivenosa*, *Senna glutinosa* ssp *pruinosa*, *S. glutinosa* ssp *glutinosa* open heath over *Senna leurssenii, S. helmsii* low shrubland over *Triodia wiseana* hummock grassland over *Ptilotus exaltatus, P. calostachyus* open herbs;

ChAiAaAsAtAbSohTpPaa: *Corymbia hamersleyana* low open woodland over *Acacia inaequilatera, A. ancistrocarpa, A. synchronicia, A. trachycarpa* open scrub over *Acacia bivenosa, Senna artemisioides* ssp *oligophylla* x *helmsii* open heath *Triodia pungens* open hummock over *Ptilotus appendiculatus* var *appendiculatus* scattered herbs;

AiAanAsAtAbSoh: *Acacia inaequilatera, A. ancistrocarpa, A. synchronicia, A. trachycarpa* open scrub over *Acacia bivenosa*, *Senna artemisioides* ssp *oligophylla* x *helmsii* open heath;

Minor Flowlines

AanAtApAbAanAteSggTwCcilH: *Acacia ancistrocarpa, A. trachycarpa, A. pruinosa* high open shrubland over *Acacia bivenosa, A. ancistrocarpa, A. tenuissima, Senna glutinosa* ssp *glutinosa* open heath over *Triodia wiseana* open hummock grassland over *Cenchrus ciliaris* tussock grassland over mixed scattered herbs;

AtAbAanImTw: *Acacia trachycarpa* open scrub over *Acacia bivenosa, A. ancistrocarpa* closed heath over *Indigofera monophylla* scattered low shrubs over *Triodia wiseana* open hummock grassland (Rio Tinto, 2009).

Three alien weed species were recorded within the application area: Spiked Malvastrum (*Malvastrum americanum*), Mimosa Bush (*Vachellia farnesiana*) and Buffel Grass (*Cenchrus ciliaris*) (Rio Tinto, 2009).

Clearing Description

Robe River Pty Ltd is proposing to clear up to 7.4 hectares of native vegetation (Rio Tinto, 2009). The proposed program is to clear native vegetation and topsoil in order to facilitate maintenance of the Pannawonica township water supply pipeline (Rio Tinto, 2009).

The application area lies adjacent to the Pannawonica Township which has large areas or partly and completely disturbed areas as a result of town facilities and infrastructure requirements (Robe River Pty Ltd, 2009). An access track currently transverses north-south within the application area (GIS Database).

Vegetation Condition

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

To

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment

The application area is located in the Pilbara region, approximately 1 kilometre south of Pannawonica (GIS Database). The vegetation condition was derived from a vegetation survey conducted by Rio Tinto (2009).

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 area occurs within the Chichester (PIL1) and Hamersley (PIL3) subregions of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Chichester subregion is characterised by plains supporting a shrub steppe of *Acacia inaequilatera* over *Triodia wiseana* hummock grasslands, while Eucalyptus leucophloia tree steppes occur on ranges (CALM, 2002a). The Hamersley subregion is characterised by Mulga low woodland over bunch grasses on fine textured soils in valley floors, and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils on the ranges (CALM, 2002b).

A vegetation survey of the application area and surrounding vegetation identified 77 native flora species belonging to 52 genera from 26 families (Rio Tinto, 2009). This species richness is considered to be low for the Pilbara area. This can be attributed to the small area surveyed (7.4 hectares) and the portion of land previously disturbed within the survey area (Rio Tinto, 2009). Diversity of the vegetation was considered fairly low, due to several factors. These included the small spatial area considered under this survey, and the lack of diversity of landforms represented within the survey area. A proportion of land already cleared may also contribute toward these low diversity values (Rio Tinto, 2009).

Two broad habitat types were recorded over the survey area;

- Stony Plains; and
- Minor Drainage Channels (Rio Tinto, 2009).

The fauna habitats within the application area are considered common within the Pilbara region, and are unlikely to be of higher biodiversity than the surrounding areas. The proposed clearing is unlikely to have a significant impact on the biological diversity of the region, or comprise of a high level of biological diversity.

Three alien weed species were recorded within the application area (Rio Tinto, 2009). These were Spiked Malvastrum (*Malvastrum americanum*), Mimosa Bush (*Vachellia farnesiana*) and Buffel Grass (*Cenchrus ciliaris*) (Rio Tinto, 2009). Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. This in turn can lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. None of these species are listed as 'Declared Plant' species under the *Agriculture and Related Resources Protection Act 1976* by the Department of Agriculture and Food (DAFWA). Should the permit be granted, it is recommended that appropriate conditions be imposed on the permit for the purpose of weed management.

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

Methodology

CALM (2002a)
CALM (2002b)
Rio Tinto (2009)
GIS Database
- Interim Biogeographic Regionalisation of Australia

(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

Two broad habitat types were recorded within the application area. These were;

- Stony Plains; and
- Minor Drainage Channels (Rio Tinto, 2009).

The application area is not likely to contain habitat important for the movement of fauna through the landscape due to its close proximity to the Pannawonica Township, Pannawonica Rodeo grounds and an active mine access track dissecting the application area (GIS Database; Rio Tinto, 2009).

The fauna habitats identified within the application area are not considered as necessary for the on-going maintenance of any significant fauna habitat. It is likely that equal or higher quality vegetation and fauna habitats would exist throughout the surrounding area, and Pilbara region.

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

Methodology

Rio Tinto (2009)
GIS Database
- Pannawonica 1.4m Orthomosaic - Landgate 2000

(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

According to available GIS databases there are no known records of Declared Rare Flora (DRF) or Priority Flora within the application area (GIS Database). The nearest record of Priority Flora is a population of *Terminalia supranitifolia* (P1) located approximately 24 kilometres south-south-east of the application area (GIS Database).

A flora survey was conducted over the application area by staff from Rio Tinto on 2 September 2009 (Rio Tinto, 2009).

No DRF or Priority Flora species were recorded during the survey (Rio Tinto, 2009).

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

Methodology

Rio Tinto (2009)
GIS Database
- Declared Rare and Priority Flora List

(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

A search of available databases reveals that there are no Threatened or Priority Ecological Communities (TEC's or PEC's) within the application area (GIS Database).

The nearest TEC is located approximately 116 kilometres south-east of the application area (Themeda Grasslands), while the nearest PEC is located approximately 76 kilometres east of the application area (Millstream Stygofauna communities). At this distance there is little likelihood of any impact to the TEC or PEC from the proposed clearing.

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

Methodology

GIS Database
- Threatened Ecological Communities

(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 IBRA bioregion (GIS Database). Shepherd (2007) reports that approximately 99.95% of the pre-European vegetation still exists in this bioregion.

The vegetation in the application area is recorded as Beard Vegetation Associations
603: Hummock grasslands, sparse shrub steppe; *Acacia bivenosa* over hard spinifex; and

609: Mosaic: Hummock grasslands, open low tree steppe; bloodwood with sparse kanji shrubs over soft spinifex / Hummock grasslands, open low tree steppe; snappy gum over *Triodia wiseana* on a lateritic crust (GIS Database; Shepherd, 2007).

According to Shepherd (2007) approximately 100% of these Beard Vegetation Associations remain within the Pilbara bioregion (see table below).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Pilbara	17,804,187.89	17,794,646.75	~99.95%	Least Concern	~6.32%
IBRA Subregion - Chichester	8,373,874.43	8,373,620.84	~100%	Least Concern	~3.95%
IBRA Subregion - Hamersley	5,634,725.56	5,634,725.56	~100%	Least Concern	~12.88%
Beard vegetation associations - State					
603	388,455	388,455	~100%	Least Concern	~16.1%
609	74,186	74,186	~100%	Least Concern	N/A
Beard vegetation associations - Bioregion					
603	388,455	388,455	~100%	Least Concern	~16.1%
609	74,186	74,186	~100%	Least Concern	N/A

* 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 Environment (2002)
Shepherd (2007)
GIS Database
- Interim Biogeographic Regionalisation for Australia
- 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).

Robe River is located approximately 3 kilometres south of the application area (GIS Database). The small size of the proposed clearing is unlikely to result in any significant impact to any watercourse or wetland provided natural surface water flow patterns are not disturbed.

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

Methodology GIS Database
- Geodata - Lakes
- 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 has been surveyed by the Department of Agriculture and Food (Van Vreeswyk et al., 2004). The application area is composed of the following land systems (GIS Database);

- Rocklea Land System; and
- Urandy Land System

The Rocklea Land System is described as basalt hills, plateaux, lower slopes and minor stony plains supporting hard spinifex, and occasionally soft spinifex, grasslands (Van Vreeswyk et al., 2004). This system is not susceptible to erosion or vegetation degradation (Van Vreeswyk et al., 2004). An analysis of aerial photography for the application area reveals the application area is most likely to fall within the 'drainage floors and channels' land unit. The soils of this land unit (red loamy earths with red shallow sandy duplex soils and red/brown non-cracking clays) are not susceptible to erosion (Van Vreeswyk et al., 2004; GIS Database).

The Urandy Land System is described as stony plains, alluvial plains and drainage lines supporting shrubby soft spinifex grasslands (Van Vreeswyk et al., 2004). This system is not susceptible to erosion (Van Vreeswyk et al., 2004). An analysis of aerial photography for the application area reveals the application area is most likely to fall within the 'alluvial plains' land unit. The soils of this land unit (red loamy earths with red shallow sandy duplex soils) are not susceptible to erosion due to a surface mantle of pebbles of chert, sandstone, quartz and other rocks (Van Vreeswyk et al., 2004; GIS Database).

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 a conservation reserve (GIS Database). The nearest known conservation reserve is the Millstream National Park, located approximately 79 kilometres east (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, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

The groundwater salinity within the application area is approximately 500 - 1,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). This is considered to be potable water. Given the size of the area to be cleared (7.4 hectares) compared to the size of the Hamersley Groundwater Province (10,166,832 hectares) (GIS Database), the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.

There are no known groundwater dependent ecosystems within the application area (GIS Database).

The application area is located within the Robe River catchment area, which is a major river system in the Pilbara (GIS Database). The small area to be cleared (7.4 hectares) is unlikely to significantly impact the surface hydrology of the Robe River, either in relation to sediment loads or changes to surface water flows (Rio Tinto, 2009).

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

Methodology Rio Tinto (2009)
GIS Database
- Groundwater Provinces
- Groundwater Salinity, Statewide
- Hydrographic Catchments - Catchments
- Potential Groundwater Dependent Ecosystems
- Public Drinking Water Source Area

(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 application area experiences a semi-desert tropical climate with an average annual rainfall of 408.2 millimetres recorded from the nearest weather station at Pannawonica approximately 1 kilometre north of the application area (BoM, 2009; CALM, 2002a; CALM, 2002b).

Local flooding occurs seasonally within the Pilbara region as a result of cyclonic activity and sporadic thunderstorm events (Rio Tinto, 2009). The application area is located north of the Robe River, which experiences natural seasonal flooding periodically, replenishing the Robe River flood plains (GIS Database; Rio Tinto, 2009). The small size of the application area (7.6 hectares) is unlikely to significantly alter the intensity of flooding within the application area and surrounding areas.

The application area is located within the Robe River catchment area (GIS Database). During periods of high rainfall, the area may be subject to local flooding. However, the small area to be cleared (7.4 hectares) in relation to the size of the Robe River catchment area (757,138 hectares) (GIS Database) is not likely to increase the potential for flooding within the application area, local area or catchment (GIS Database).

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

Methodology

BoM (2009)
CALM (2002a)
CALM (2002b)
Rio Tinto (2009)
GIS Database
- Hydrographic Catchments - Catchments
- Hydrography - Linear

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

Comments

There are no Native Title Claims over the area under application.

There are two known Aboriginal sites of significance (ID_10050 and ID_10051) within close proximity of 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.

One public submission was received stating no objection to the proposal.

Methodology

GIS Database
- Aboriginal Sites of Significance
- Native Title Claims

4. Assessor's comments

Comment

The proposal has been assessed against the Clearing Principles, and the proposal 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).

It is recommended that should a permit be granted, conditions be imposed on the permit for the purpose of weed management, stockpiling all cleared topsoil and vegetation, record keeping and permit reporting.

5. References

BoM (2009) Bureau of Meteorology Website - Climate Averages by Number, Averages for PANNAWONICA. http://www.bom.gov.au/climate/averages/tables/cw_005069.shtml (Accessed 19 November 2009)

CALM (2002a) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 1 (PIL1 - Chichester subregion) Department of Conservation and Land management, Western Australia

CALM (2002b) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 3 (PIL3 - Hamersley subregion) 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 (2009) Flora and Vegetation Survey of the Pannawonica Township Pipeline & Supporting Documentation for the Native Vegetation Clearing Permit Application. Unpublished Report dated September2009. Rio Tinto, Western Australia

Robe River Pty Ltd (2009) Application for a Clearing Permit (Purpose Permit) Pannawonica Township Pipeline - L3116 4627 Supporting Documentation. Robe River Mining Co 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. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.

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.