



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3166/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Iluka Resources Ltd

1.3. Property details

Property: Mineral Sands (Eneabba) Agreement Act 1975,
Mining Lease 267SA (AM 70/267)
Local Government Area: Shire Of Carnamah
Colloquial name: Jennings Slot

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
20.74		Mechanical Removal	State Agreement

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The vegetation of the application area is broadly mapped as Beard Vegetation Association 378: shrublands; scrub-heath with scattered *Banksia spp.*, *Eucalyptus todtiana* & *Xylomelum angustifolium* on deep sandy flats in the Geraldton Sandplain region (GIS Database).

Woodman Environmental Consulting (2009) describe the vegetation of the application area as:

Floristic Community Type (FCT) 1b: woodlands to tall shrubland dominated by *Xylomelum angustifolium* and/or *Banksia spp.* on grey sand on dune crests and upper slopes.

Clearing Description

Iluka Resources Ltd (Iluka Resources) have applied to clear 20.74 hectares of native vegetation, within a purpose permit boundary totalling approximately 24.1 hectares.

The proposed clearing is for mineral sands mining as a continuation of the existing mining activities at the Iluka Resources Eneabba mineral sands operation (Iluka Resources, 2009). Clearing is proposed to be conducted mechanically with a lowered blade, in accordance with methods already in practice at the mine site (Iluka Resources, 2009).

Vegetation Condition

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

to

Completely Degraded: no longer intact; completely/almost completely without native species (Keighery, 1994).

Comment

The vegetation condition of the application area has been derived from the vegetation descriptions provided by Woodman Environmental Consulting (2009), Iluka Resources (2009) and aerial photography viewed by the assessing officer.

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 is situated approximately two kilometres north of the town-site of Eneabba, within the Lesueur Sandplains subregion of the Geraldton Sandplains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The subregion exhibits extremely high floristic endemism, with over 250 species of flora endemic to the subregion (Department of Conservation and Land Management, 2002).

The application area was originally mined by the Jennings Group in the late 1970's. Little rehabilitation occurred post mining therefore, much of the vegetation of the application area is highly degraded (Iluka Resources, 2009).

Approximately 6.2 hectares of the application area (totalling approximately 24 hectares) has been described as remnant native vegetation, with the remainder described as highly disturbed native vegetation; vegetation growing in overburden stockpiles; and open areas (Iluka Resources, 2009). Where vegetation has been described as disturbed, invasive pasture species are prolific as are exotic eucalypts which were planted as farming landcare practices during and after historic mining in the area (Iluka Resources, 2009). Should the Permit be granted it is recommended that a condition be placed on the Permit for the purpose of weed management.

Nine individuals from five Priority Flora taxa occur within the application area (Iluka Resources, 2009). Priority Flora are relatively common in the Geraldton Sandplains bioregion, and a number of species have been known to readily recolonise rehabilitated areas (Woodman Environmental Consulting, 2009).

There are four species of dieback (*Phytophthora cinnamomi*, *Phytophthora citricola*, *Phytophthora megasperma* and *Phytophthora drechsleri*) which have been recorded in the Geraldton Sandplains bioregion (Iluka Resources, 2007). *Phytophthora cinnamomi* has been shown to cause widespread disease in natural ecosystems with the capacity to affect 40% of the native plants in the Geraldton Sandplains bioregion (Iluka Resources, 2007). *Phytophthora citricola* and *Phytophthora megasperma* are thought to have the potential to cause localised disease outbreaks at the Eneabba mine site as the warmer conditions at Eneabba favour the establishment and proliferation of these species in sites under rehabilitation (Iluka Resources, 2007). Should the Permit be granted it is recommended that conditions be placed on the Permit for the purposes of dieback management.

Although the application area occurs within an area noted for its high floristic diversity, documentation provided by Woodman Environmental Consulting (2009) and Iluka Resources (2009) indicates that the application area itself does not appear to support higher floristic diversity than surrounding areas. Given that most of the application area comprises disturbed vegetation or open areas it is likely the application area would represent lower biodiversity than surrounding areas of remnant vegetation.

Provided successful rehabilitation is carried out, a net increase in native vegetation will occur within the application area post mining. Iluka Resources (2009) propose to rehabilitate the 24 hectare application area to native vegetation, of which at present only contains 6.2 hectares of intact native vegetation.

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

Methodology Department of Conservation and Land Management (2002)
Iluka Resources (2007)
Iluka Resources (2009)
Woodman Environmental Consulting (2009)
GIS Database
- Interim Biogeographic Regionalisation of Australia
- Interim Biogeographic Regionalisation of Australia - subregion

(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

From previous studies and known records, 26 species of vertebrates fauna that are of conservation significance may occur in the Eneabba area (Bancroft and Bamford, 2006). This includes 2 reptiles, 23 birds and 1 mammal species (Bancroft and Bamford, 2006).

The vegetation within the application area is unlikely to constitute significant habitat for fauna indigenous to Western Australia (Iluka Resources, 2009). Similar habitat to that of the application area occurs in several conservation reserves surrounding the mining operations and within the Iluka Resources lease areas in Eneabba (GIS Database). Several conservation significant species may utilise the application area periodically for feeding, however, clearing associated with this proposal is not expected to have a regional impact on these species.

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

Methodology Bancroft and Bamford (2006)
Iluka Resources (2009)
GIS Database
- CALM Managed Lands and Waters

(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

Woodman Environmental Consulting (2009) conducted a Declared Rare and Priority Flora search of the application area in November 2008. Further surveys have also been conducted in 2001 and 2005 in the local area (Iluka Resources, 2009).

No Declared Rare Flora (DRF) pursuant to the *Wildlife Conservation (Rare Flora) Notice 2008* was identified in the application area. However, five Priority Flora species as listed with the Department of Environment and Conservation (DEC) were recorded in the application area (Woodman Environmental Consulting, 2009). These species are listed below.

Priority Flora Species	Priority Status (P)	Number mapped on Iluka Lease **	No. in proposed disturbance area	% disturbance in Lease area
<i>Calytrix superba</i>	P3	682	1	0.1%
<i>Desmocladius elongatus</i>	P3	148	1	0.7%
<i>Hemiandra sp. eneabba</i> (H. Demarz 3687)	P3	401	3	0.5%
<i>Persoonia filiformis</i>	P2	103	2	1.9%
<i>Verticordia aurea</i>	P4	253	2	0.4%
Total Impact on Priority Flora	-	1587	9	0.4%

(Iluka Resources, 2009)

According to the Western Australian Herbarium (1998-2009) flora database *Calytrix superba*, *Hemiandra sp. Eneabba* and *Verticordia aurea* occur have all been recorded as recolonising disturbed and rehabilitated land. Therefore, upon rehabilitation it is likely that these species would recolonise the area.

All of the Priority Flora species listed in the table above have been recorded in numerous locations throughout the Iluka Eneabba leases, and in the local area (Woodman Environmental Consulting, 2009). At least some of their populations are not under threat from identifiable factors (Western Australian Herbarium, 1998-2009). Given the small size of the populations found i.e. only one to two plants of each species, it is not expected that the proposed clearing would impact on the continued existence of these species.

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

Methodology Iluka Resources (2009)
Western Australian Herbarium (1998-2009)
Woodman Environmental Consulting (2009)

(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 (TEC's) within the application area (GIS Database). The nearest registered TEC's occur approximately five kilometres to the south-west of the application area (GIS Database). It is unlikely these communities will be impacted by this proposal.

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 likely to be at variance to this Principle**

The application area is located within the Geraldton Sandplains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). According to Shepherd (2007) there is approximately 42.8% of the pre-European vegetation remaining in the Geraldton Sandplains bioregion which places it as 'depleted' according to the 'Biological Conservation Status of Ecological Vegetation Classes' (Department of Natural Resources and Environment, 2002).

The application area falls within the Shire of Carnamah. The Shire of Carnamah is within the Intensive Land Use Zone of the south-west of Western Australia which has been extensively cleared for agriculture. Consequently, 39.4% of its pre-European vegetation extent remains within the shire (Shepherd, 2007). This places the Shire at 'Depleted' according to the Bioregional Conservation Status of Ecological Vegetation Classes' (Department of Natural Resources and Environment, 2002).

One Beard Vegetation Associations was located within the application area; 378 (GIS Database). Shepherd (2007) report that approximately 63.7% of this pre-European vegetation association still exists in this bioregion and Lesueur Sandplain subregion. This vegetation type is represented in IUCN Class I-IV Reserves within both the bioregion, and subregion (refer to table below).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% of Pre-European area in IUCN Class I-IV Reserves (and current %)
IBRA bioregion – Geraldton Sandplains	3,136,024	1,341,266	~42.8	Depleted	15.3
IBRA subregion – Lesueur Sandplains	1,171,777	495,451	~42.3	Depleted	17.8
Local Government – Carnamah	287,239	113,090	~39.4	Depleted	N/A
Beard veg assoc. – State					
378	95,109	60,550	~63.7	Least concern	13.3 (20.9)
Beard Veg Assoc. – bioregion					
378	95,109	60,550	~63.7	Least concern	13.3 (20.9)
Beard Veg Assoc. – subregion					
378	90,923	60,370	~66.4	Least concern	13.9 (21)

* Shepherd (2007)

** Department of Natural Resources and Environment (2002)

Whilst the bioregion, subregion and Local Government area are listed as depleted, the degraded condition of much of the vegetation under application would signify that it is unlikely to represent a significant remnant in an area that has been extensively cleared (Iluka Resources, 2009).

Approximately 6.2 hectares of vegetation within the application area could be classified as Beard Vegetation Association 378 in its remnant form. Beard Vegetation Association 378 is relatively well represented in the bioregion and subregion and therefore, it is unlikely to represent a significant remnant in an area that has been extensively cleared

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

Methodology Department of Natural Resources and Environment (2002)
Iluka Resources (2009)
Shepherd (2007)
GIS Database:
- Interim Biogeographic Regionalisation of 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 at variance to this Principle

There are no watercourses, wetlands or ephemeral drainage lines within the application area (GIS Database). The vegetation association identified within the application area is not associated with watercourses or wetlands (Iluka Resources, 2009).

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

Methodology Iluka Resources (2009)
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

At a regional scale, the Iluka Resources Eneabba mine site occurs in the inland Eneabba Plain (part of the Swan Coastal Plain) and the Arrowsmith Region (Iluka Resources, 2007). The Eneabba Plain is generally flat with elevations of approximately 80-100 metres above sea level (Iluka Resources, 2007).

At a local scale, soils of the Eneabba mine site are predominantly pale grey or yellow sands, although shallow

gravels and deep sandy clay are present (Iluka Resources, 2007).

Due to the low relief of the surrounding area and the sandy soils with a high infiltration rate, water erosion is not common. However, as a result of the strong prevailing winds and high wind speeds throughout most of the year, it is important that soils are stabilised against wind erosion (Iluka Resources, 2007). Should the Permit be granted it is recommended a condition be placed on the Permit for the purpose of staged clearing.

Since 2007, to mitigate the potential for wind erosion, cereal crops have been sown in native vegetation rehabilitation blocks and sprayed out before seed sets to stabilise soils (Iluka Resources, 2007).

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

Methodology Iluka Resources (2007)

(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 nearest Department of Environment and Conservation managed land is an unnamed "C" Class nature reserve, located approximately 2.2 kilometres south of the application area (GIS Database).

Open farm pastures occur between the nature reserve and the proposed clearing (GIS Database). Consequently, the vegetation is not continuous and is unlikely to have a linkage or buffering effect.

The distance between the reserve and the application area is considered adequate for separation of these activities and it is unlikely that the proposed clearing will impact on the environmental values of the conservation reserve.

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

Methodology GIS Database:
- Arrowsmith 50cm Orthomosaic
- CALM Managed Lands and Waters

(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 (PDWSA) (GIS Database).

There are no adjacent ephemeral or permanent surface water bodies that will be impacted by the proposed clearing (GIS Database). Groundwater in the vicinity of the proposed clearing area is typically 30-40 metres below ground level, and will not be impacted by the proposed clearing (Iluka Resources, 2009).

Groundwater salinity within the application area contains between 500 - 1000 milligrams per litre of Total Dissolved Solids (TDS) (GIS Database). Given the size of the application area (20.74 hectares), comparative to the size of the Indoon Logue Catchment area (approximately 137,421 hectares) (GIS Database), the quality of the groundwater is unlikely to be impacted by the proposed clearing activity.

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

Methodology Iluka Resources (2009)
GIS Database:
- Ground Water Salinity Statewide
- Hydrographic Catchments
- 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

Due to the relatively small size of the proposed clearing (20.74 hectares), it is unlikely to cause or exacerbate the incidence, or intensity of flooding.

Most of the vegetation proposed to clear is highly degraded and sporadic, and will be rehabilitated upon completion of mining (Iluka Resources, 2009). Therefore, in terms of vegetation cover there is likely to be a net gain post rehabilitation (Iluka Resources, 2009).

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

Methodology Iluka Resources (2009)

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

The clearing permit application was advertised on 11 May 2009 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to this application.

There are two native title claims over the application area (GIS Database). These claims (WC98-057 and WC04-002) have been registered with the National Native Title Tribunal on behalf of the claimant groups. 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 (ie. 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*.

There are no known 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 Sites of Aboriginal 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.

During the assessment of this application it was noted by the assessing officer that the application area occurred wholly within an area that was under assessment by the Environmental Protection Authority (EPA). Iluka Resources were notified that a decision cannot be made on a clearing permit application under Section 51 of the *Environmental Protection Act 1986 (EP Act)* if it is related to a proposal that has been referred to the EPA under Section 38 of the *EP Act*. Upon notification, Iluka Resources applied to the EPA under Section 43A of the *EP Act* to get the clearing permit application area excised from the area under formal assessment by the EPA. A letter dated 6 October 2009 from the EPA was received by the assessing officer which stated the clearing permit application area had been excised from the area under assessment by the EPA.

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 proposed clearing is not likely to be at variance to Principles (a), (b), (c), (d), (e), (g), (h), (i), (j) and is not at variance to Principle (f).

Should the permit be granted, it is recommended that conditions be imposed on the permit for the purposes of staged clearing, dieback and weed management, record keeping, and permit reporting.

5. References

- Bancroft, W. J. and Bamford, M.J. (2006) Fauna Review Eneabba, unpublished report prepared for Iluka Resources Ltd, Kingsley, Western Australia.
- Department of Conservation and Land Management (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions.
- 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.
- Iluka Resources (2007) Midwest Operations Eneabba Rehabilitation Management Plan, Unpublished Report, Perth, Western Australia.
- Iluka Resources (2009) Native Vegetation Clearing Proposal (Brandy Flats – Remediation of 'Jenning's Slot'), supporting documentation for Clearing Permit Application CPS 3166/1, Eneabba, 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.
- 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.
- Western Australian Herbarium (1998-2009) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 13/08/2009).

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 in 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.