



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4791/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Avoca Mining Pty Ltd

1.3. Property details

Property: Mining Lease 15/31
Mining Lease 15/348
Mining Lease 15/375
Mining Lease 15/610
Mining Lease 15/748
Local Government Area: Shire of Coolgardie
Colloquial name: Fairplay Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 1 March 2012

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
<p>Beard vegetation associations have been mapped for the whole of Western Australia. One Beard vegetation association has been mapped within the application area:</p> <p>8; Medium woodland; salmon gum and gimlet (GIS Database).</p> <p>A flora and vegetation survey of the application area was undertaken in December 2011 by botanists from Native Vegetation Solutions. Five vegetation types were identified within the application area, including a 'disturbed' category (Native Vegetation Solutions, 2011).</p> <p>Salmon Gum (<i>Eucalyptus salmonophloia</i>) woodland: Dominant species were <i>Eucalyptus salmonophloia</i>, <i>E. salubris</i>, <i>Melaleuca sheathiana</i>, <i>Atriplex nummularia</i> subsp. <i>spathulata</i>, <i>Eremophila interstans</i> subsp. <i>virgata</i>, <i>Maireana sedifolia</i>, <i>Cratystylis conocephala</i> and <i>Olearia muelleri</i>.</p> <p><i>Eucalyptus ravid</i> woodland: Dominant species were <i>Eucalyptus ravid</i>, <i>E. flocktoniae</i> subsp. <i>hebes</i>, <i>Eremophila scoparia</i>, <i>E. maculata</i> subsp. <i>brevifolia</i>, <i>Atriplex nummularia</i> subsp. <i>spathulata</i> and <i>Olearia muelleri</i>.</p> <p><i>Eucalyptus flocktoniae</i> over <i>Melaleuca sheathiana</i>: Dominant species were <i>Eucalyptus flocktoniae</i> subsp. <i>hebes</i>, <i>Melaleuca sheathiana</i>, <i>Atriplex nummularia</i></p>	<p>Avoca Mining Pty Ltd has applied to clear up to 94.31 hectares of native vegetation for the purpose of mineral production. The clearing is to expand current pit and waste landform areas as well as develop a new pit and waste landform area for the Fairplay Project in the Higginsville area. The application area is located approximately 50 kilometres north of Norseman.</p> <p>Vegetation will be cleared by mechanical means. Vegetation and topsoil will be stockpiled and used in rehabilitation.</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994);</p> <p>To:</p> <p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).</p>	<p>The vegetation condition was assessed by botanists from Native Vegetation Solutions (2011).</p>

subsp. *spathulata*, *Eremophila interstans*
subsp. *virgata*, *Maireana sedifolia*, *Cratystylis*
conocephala and *Olearia muelleri*.

Melaleuca sheathiana thicket: Dominant species were *Melaleuca sheathiana*, *Atriplex vesicaria*, *Sclerolaena diacantha*, *Maireana georgei*, *Solanum nummularium* and *Angianthus tomentosus*.

Disturbed vegetation: Dominant species were *Maireana brevifolia*, *Aristida contorta*, *Sclerolaena patentiscuspis*, *Sonchus oleraceus*, *Angianthus tomentosus*, *Dissocarpus paradoxus* and *Centaurea melitensis*.

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 Eastern Goldfield (COO3) Interim Biogeographic Regionalisation of Australia (IBRA) subregion (GIS Database). This subregion is generally described as gently undulating plains interrupted in the west with low hills and ridges of Archaean greenstones (CALM, 2002). The vegetation is of mallees, *Acacia* thickets and shrub-heaths on sandplains; diverse *Eucalyptus* woodlands occur around salt lakes, on ranges and in valleys; and salt lakes support dwarf shrublands of samphire (CALM, 2002). *Eucalyptus* woodlands have been identified as having a high species and ecosystem diversity within the Eastern Goldfields subregion (CALM, 2002).

The vegetation within the application area is broadly mapped as Beard vegetation association 8, which has approximately 98.7% of its pre-European extent remaining in the bioregion (Shepherd, 2009; GIS Database). A total of 63 vascular flora species, comprising of 16 families and 31 genera, were recorded during the flora and vegetation survey conducted by Native Vegetation Solutions (2011).

No Declared Rare Flora, Threatened Ecological Communities or Priority Ecological Communities were recorded within the application area (Native Vegetation Solutions, 2011; GIS Database).

One Priority 3 flora species, *Diocirea acutifolia*, was recorded throughout the application area (Native Vegetation Solutions, 2011). This species is widespread and occurs in large numbers in the local and regional area (Native Vegetation Solutions, 2011). It is known from 15 herbarium records and has been recorded by previous flora surveys in the locality (Native Vegetation Solutions, 2011; Western Australian Herbarium, 2012). *Diocirea acutifolia* was identified as the dominant understorey species in two vegetation types observed adjacent to a nearby clearing permit application area (GHD, 2010). Given that the species occurs in abundance in the local area outside the application area, the proposed clearing is not likely to significantly impact on the species at a local level.

Three introduced flora species were recorded within the application area (Native Vegetation Solutions, 2011). These weed species were Common Sowthistle (*Sonchus oleraceus*), Maltese Cockspur (*Centaurea melitensis*) and Ward's Weed (*Carrichtera annua*) (Native Vegetation Solutions, 2011). Care must be taken 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.

The broad fauna habitat types likely to occur within the application area, based on mapped vegetation types and a nearby fauna survey, are considered common and widespread (GHD, 2010).

Given that the vegetation and habitat types within the area applied to be cleared are well represented locally and regionally it is not likely that the area to be cleared comprises a higher level of biological diversity in a regional context.

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

Methodology

CALM (2002)
GHD (2010)
Native Vegetation Solutions (2011)
Shepherd (2009)
Western Australian Herbarium (2012)
GIS Database:
- IBRA WA (Regions - Subregions)

- Pre-European Vegetation
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered

(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

No targeted fauna surveys were undertaken within the application area. A desktop analysis was conducted and observations of the fauna habitats present were recorded for a nearby survey area that partially overlaps the current application area (GHD, 2010). The reconnaissance fauna survey was undertaken by an ecologist from GHD in October 2010 (GHD, 2010). The vegetation types are similar between the two areas (GHD, 2010; Native Vegetation Solutions, 2011) and the broad fauna habitat types identified during the fauna survey are likely to be applicable to the current application area.

The broad fauna habitat types likely to occur within the application area are 'mixed woodland over mixed shrubs' and 'cleared areas'. The mixed woodland over mixed shrubs habitat is considered to provide a high level of habitat value to fauna. The vegetation has relatively good structural diversity with medium sized eucalypts, mallees and a healthy understorey of small and larger shrubs present. Such heterogeneity across the habitat unit provides a range of ecological niches for vertebrate fauna, particularly bird and reptile species (GHD, 2010). Occasional hollows present in the larger Salmon Gums (*Eucalyptus salmonophloia*) also provide good habitat for a range of species. The study area has been subjected to historical timber extraction and standing dead trees and logs are far less abundant than in areas not impacted by timber harvesting (GHD, 2010). The cleared areas are relatively devoid of vegetation and offer little habitat value for fauna. The species diversity for all taxonomic groups is likely to be very limited in this habitat type (GHD, 2010).

The study area is surrounded by relatively intact vegetation and is not considered to constitute a significant corridor or habitat linkage for fauna (Shepherd, 2009; GHD, 2010). Fauna species present in the study area are likely to find similar habitat adjacent to the study area (GHD, 2010).

Three species of conservation significance were recorded during the reconnaissance survey:

- Black-faced Cuckoo-shrike (*Coraacina novaehollandiae*), Marine *Environmental Protection and Biodiversity Conservation (EPBC) Act 1999*;
- Crested Bellbird (*Oreoica guttralis*) listed DEC Priority Four; and
- Crested bellbird - Southern (*Oreoica guttralis guttralis*), listed DEC Priority Four (GHD, 2010).

The proposed clearing activities are unlikely to impact on these species as any birds present within the application area will be able to quickly move to adjacent areas of undisturbed habitat (GHD, 2010).

The application area is situated adjacent to highly degraded areas which are being utilised for mining related purposes (i.e. an open pit, waste dump and access tracks) (Native Vegetation Solutions, 2011). The proximity to existing mine infrastructure could also be considered to act as a deterrent to many native fauna species, thereby minimising the potential for some species to frequent parts of the application area.

Based on the vegetation mapping of the application area, the mixed woodland over mixed shrubs habitat occupies approximately 97% of the application area (Native Vegetation Solutions, 2011). While this broad habitat type may provide habitat for a variety of fauna species, the fauna habitat type is well represented outside the application area (GHD, 2010).

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

Methodology GHD (2010)
Native Vegetation Solutions (2011)
Shepherd (2009)

(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 databases there are no known records of Declared Rare Flora (DRF) within the application area (GIS Database). The nearest record of DRF is located approximately 44 kilometres south of the application area (GIS Database).

A flora and vegetation survey of the application area was conducted by Native Vegetation Solutions botanists in December 2011 (Native Vegetation Solutions, 2011). No DRF species were recorded during the survey (Native Vegetation Solutions, 2011).

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

Methodology Native Vegetation Solutions (2011)

GIS Database:
- Threatened and Priority Flora

(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 revealed there are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest recorded TEC is located approximately 240 kilometres south-east of the application area (GIS Database).

No TECs were identified during the flora and vegetation survey conducted by Native Vegetation Solutions botanists over the application area (Native Vegetation Solutions, 2011).

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

Methodology Native Vegetation Solutions (2011)
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 clearing application area falls within the Coolgardie Interim Biogeographic Regionalisation for Australia (IBRA) bioregion in which approximately 98.4% of the pre-European vegetation remains (see table) (Shepherd, 2009; GIS Database). This gives it a conservation status of 'Least Concern' according to the Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment, 2002).

The vegetation of the clearing application area has been mapped as Beard vegetation association 8 'Medium woodland; salmon gum and gimlet' (Shepherd, 2009; GIS Database). According to Shepherd (2009), approximately 48.1% of this vegetation association remains at a state level and 98.7% remains at a bioregional level. In a bioregional context, the vegetation under application is not a remnant of vegetation in 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 – Coolgardie	12,912,204	12,707,873	~98.4	Least Concern	10.9
Beard Veg Assoc. – State					
8	694,638	334,007	~48.1	Depleted	6.4
Beard Veg Assoc. – Bioregion					
8	280,248	276,599	~98.7	Least Concern	8.9

* 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)
- 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**
No watercourses or wetlands have been mapped as occurring within the application area (GIS Database). The

on ground vegetation survey identified five vegetation types within the application area and none were described as growing in association with a watercourse (Native Vegetation Solutions, 2011).

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

Methodology Native Vegetation Solutions (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 may be at variance to this Principle

The application area is located within the Kambalda Soil-Landscape Zone (Tille, 2006). This zone is characterised by flat to undulating plains (with hills, ranges and some salt lakes and stony plains) on greenstone and granitic rocks of the Yilgarn Craton (Tille, 2006). The application area is also broadly mapped as occurring on the Gumland Land System (GIS Database). The Gumland Land System is described as extensive pediplains supporting eucalypt woodlands with halophytic and non-halophytic shrub understoreys (GIS Database).

Large areas cleared of native vegetation pose a risk of land degradation through erosion and short-term erosion may occur within the application area following any potential clearing (GHD, 2010). Several lake systems are within the vicinity of the application area including Lake Cowan (GIS Database), a wetland of subregional significance (CALM, 2002), and management may be needed to ensure increased sedimentation does not affect the local area. Potential impacts from land degradation as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

The application area has an annual average evaporation rate of approximately eight times the annual average rainfall (BoM, 2012; GIS Database). Based on this information, surface flows during normal rainfall events are likely to be short lived and recharge to groundwater would be considered minimal. This would reduce the likelihood of salinity increasing as a result of the proposed clearing.

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

Methodology BoM (2012)
CALM (2002)
GHD (2010)
Tille (2006)
GIS Database:
- Evaporation Isopleths
- Geodata, Lakes
- Hydrology, Linear
- 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 conservation area is Binaronca Nature Reserve, which is located approximately 4.5 kilometres north-west of the application area (GIS Database). Given the distance between the application area and the nearest conservation area, the proposed clearing is not likely to impact on the environmental values of the Binaronca Nature Reserve.

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 areas are located within the proclaimed Goldfields groundwater area under the *Rights in Water and Irrigation Act 1994* (GIS Database). Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water.

There are no permanent watercourses or water bodies within the application area (GIS Database). Any surface water within the application area is likely to only remain for short periods following significant rainfall events (BoM, 2012). The proposed clearing is not likely to cause deterioration in the quality of any surface water within

or outside of the application area.

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

Methodology BoM (2012)
GIS Database:
- Geodata, Lakes
- Hydrography, Linear
- RIWI Act, Groundwater Areas
- Public Drinking Water Source Areas

(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-arid warm Mediterranean climate with winter rainfall, with an annual average rainfall of approximately 288.9 millimetres per year (CALM, 2002; BoM, 2012). Based on an average annual evaporation rate of 1,800 - 2,000 millimetres (BoM, 2012), any surface water resulting from rainfall events is likely to be relatively short lived.

Given the size of the area to be cleared (94.31 hectares) compared to the size of the Balladonia catchment area (3,483,410 hectares) (GIS Database), it is not likely that the proposed clearing will lead to an appreciable increase in run off, and subsequently cause or exacerbate the incidence or intensity of flooding.

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

Methodology BoM (2012)
CALM (2002)
GIS Database:
- Hydrographic Catchments - Catchments
- Hydrography, Linear

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

Comments

There are two Native Title Claims (WC97/100 and WC99/2) over the area under application (GIS Database). These claims have been registered with the National 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*.

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 application was advertised on 16 January 2012 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Filed with the Federal Court
- Native Title Claims - Registered with the NNTT

4. References

- BoM (2012) Climate Statistics for Australian Locations. A Search for Climate Statistics for Norseman, Australian Government Bureau of Meteorology, <http://www.bom.gov.au/climate/data/> (Accessed 27 February 2012).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Coolgardie 3 (COO3 - Eastern Goldfields 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.
- GHD (2010) Avoca Resources Limited Report for Proposed Chalice Haul Road Flora and Fauna Assessment. Unpublished Report for Avoca Resources Limited, Western Australia, December 2010.

- Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Native Vegetation Solutions (2011) Level 1 Flora and Vegetation Survey of the Proposed Fairplay Pit and Waste Landform Expansion and Development Higginsville. Unpublished Report for Alacer Gold, December 2011.
- 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.
- Tille, P. (2006) *Soil-landscapes of Western Australia's Rangelands and Arid Interior*. Technical Report 313. Department of Agriculture and Food, Western Australia.
- Western Australian Herbarium (2012) *Florabase - The Western Australian Flora*. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 27 February 2012).

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.