



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 2009/3  
Permit type: Purpose Permit

### 1.2. Proponent details

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

### 1.3. Property details

Property: *Iron Ore (Cleveland Cliffs) Agreement Act 1964*  
Mineral Lease 248SA (AML 70/248)  
Local Government Area: Shire of Ashburton  
Colloquial name: Bungaroo Infill Drilling Project

### 1.4. Application

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

## 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 609:** 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; and

A flora and vegetation survey of the application area and surrounding areas was conducted by Biota Environmental Sciences during 2005 and 2006 (Biota, 2007a). The survey consisted of forty five 50m x 50m quadrats distributed across the different vegetation types occurring within the survey area. Biota (2007a) identified the following six main vegetation associations within the area applied to clear, broadly associated with geographical features:

#### Plains and Low Rises:

- (1) **ChAiTw:** *Corymbia hamersleyana* low open woodland over *Acacia inaequilatera* tall open shrubland over mixed scattered shrubs over *Triodia wiseana* hummock grassland.
- (2) **ChAiApyTe:** *Corymbia hamersleyana* open woodland, over *Acacia inaequilatera*, *A. pyrifolia* tall open shrubland over *Triodia epactia* hummock grassland.
- (3) **ChAiTe:** *Corymbia hamersleyana* scattered low trees over *Acacia bivenosa* open shrubland over *Triodia epactia* hummock grassland.

#### Drainage Areas:

- (4) **EvApyAtrTe:** *Eucalyptus victrix* scattered low trees over *Acacia pyrifolia*, *A. trachycarpa* open shrubland over *Tephrosia rosea* var. *glabrior* low shrubland over *Triodia epactia* very open hummock grassland.
- (5) **EvCv:** *Eucalyptus cameldulensis* open forest over dense *Cyperus vaginatus* sedges in permanent soak.
- (6) **AcTe:** *Acacia coleii* var. *ileocarpa* tall open shrubland over *Triodia epactia* hummock grassland.

Approximately 60 percent of the application area consists of a combination of vegetation associations (4) **EvApyAtrTe** and (6) **AcTe**, situated on the broad floodplain of the Bungaroo valley (Biota, 2007a; GIS Database; Robe River, 2007).

#### **Clearing Description**

Robe River Mining Company Ltd (Robe River) have applied to clear up to 13.6 ha, within a total application area of approximately 304 ha, for the purpose of mineral exploration for the Bungaroo Infill Drilling project. Clearing will include approximately 157 drill pads, and associated sumps and access tracks. Each drill pad will be approximately 20m x 20m, each sump will be approximately 4m x 3m x 0.5m deep, and access tracks will be approximately 4m wide.

Existing tracks and other previously disturbed areas will be utilised wherever possible. Where new tracks are required, they will be established by vegetation rolling or raised blade clearing techniques wherever practicable. Drill pads and sumps will be mechanically cleared using earth moving equipment with a lowered blade. All topsoil and vegetation will be stockpiled for later use in revegetation (Robe River, 2007).

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

**Comment** The application area is located in the Pilbara region, approximately 34 kilometres south, south-east of Pannawonica.

Clearing permit CPS 2009/1 was granted by the Department of Industry and Resources (now the Department of Mines and Petroleum (DMP)) on 17 January 2008 and authorised the clearing of up to 13.6 hectares of native vegetation within an area totalling approximately 304 hectares. Robe River Mining Co Pty Ltd applied to DMP on 2 October 2009 to amend CPS 2009/1 to extend the duration of the permit date. Clearing permit CPS 2009/2 was granted by the Department of Mines and Petroleum (DMP) on 22 October 2009 and the permit date was extended to 1 February 2011. Robe River Mining Co Pty Ltd applied to DMP on 1 February 2010 to amend clearing permit CPS 2009/2 to extend the timeframe to complete rehabilitation from 6 months to 12 months following clearing. The area of authorised clearing and the clearing area boundary that was approved under clearing permit CPS 2009/2 will remain unchanged.

### 3. Assessment of application against clearing principles

#### (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

**Comments** **Proposal may be at variance to this Principle**

The application area is located within the Hamersley subregion of the Pilbara Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). This sub-region 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 of the ranges (CALM, 2002).

The application area has suffered some previous disturbance from grazing and exploration activities (Robe River, 2007). Three weed species were recorded within the application area: Kapok, *Aerva javanica*; Mexican Poppy, *Argemone ochroleuca* subsp. *ochroleuca*; and Buffel Grass, *Cenchrus ciliaris* (Biota, 2007a; Robe River, 2007). Kapok occurred mainly along tracks, while Mexican Poppy and Buffel Grass were widespread on the floodplain (Biota, 2007a). Should a permit be granted, it is recommended that a condition be imposed on the permit for the purpose of weed management.

Biota (2007a) report that the Bungaroo area appears to be relatively more diverse than other nearby areas. This is thought to be due to the drainage line and floodplain associated with the Bungaroo creek system (Biota, 2007a).

Based on the above, the proposed clearing may be at variance to this Principle. However the application area is located in the upper reaches of the Bungaroo creek system and the area proposed to be cleared represents only a small proportion of the total area of the Bungaroo floodplain. The vegetation associations and habitat types found within the application area are all well represented in adjacent areas (Biota, 2007a; GIS Database; Robe River, 2007), and the relatively small area of proposed clearing is unlikely to have any significant impact on the biodiversity of the immediate area or the wider region.

**Methodology** Biota (2007a).  
CALM (2002).  
Robe River (2007).  
GIS Database:  
- Interim Biogeographic Regionalisation of Australia (subregions)  
- Pre-European Vegetation  
- Western Australia ETM 25m

#### (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**

Biota Environmental Sciences conducted a fauna survey of the Bungaroo valley, which included the current application area, in March 2005 (Biota, 2007b). The survey identified three main habitat types within the area applied to clear, associated with geographical features: major creeklines, loamy plains and stony plains. None of these habitat types were considered unique or of restricted distribution, and all were well represented outside the area applied to clear (Biota, 2007b; Robe River, 2007).

The fauna survey recorded four species of conservation significance within the wider survey area, including three bird species: the Australian Bustard, *Ardeotis australis* (P4); Bush Stone-curlew, *Burhinus grallarius* (P4); Wood Sandpiper, *Tringa glareola* (Schedule 3, migratory), and one mammal species; the Western Pebble-mound Mouse, *Pseudomys chapmani* (P4) (Biota, 2007b; Robe River, 2007). None of these species were recorded within the area currently applied to clear, although it is possible they may occur. The three bird species all have wide distributions, and the proposed clearing is unlikely to have any significant impact on the habitats for these species.

The Western Pebble-mound Mouse (P4) constructs pebble mounds of small stones and its preferred habitat is

on gentle slopes with suitable sized stones. This species is relatively widespread in the Pilbara, and is well represented in areas outside the application area (Biota, 2007b). The proposed clearing is unlikely to have any significant impact on the habitat of this species. Any active pebble mounds located during the exploration work will be avoided (Robe River, 2007).

A search of DEC databases identified a further two fauna species of conservation significance considered likely to occur within the application area, based on known distributions: the Orange Leaf-nosed Bat, *Rhinioncteris aurantius* (VU); and a species of blind snake, *Ramphotyphlops ganeii* (P1) (Robe River, 2007).

The Orange Leaf-nosed Bat (Schedule 1 - Fauna that is rare or likely to become extinct, *Wildlife Conservation (Specially Protected Fauna) Notice, 2008(2)*) was not recorded during the Bungaroo fauna survey, although the application area may provide suitable foraging ground for this species (Robe River, 2007). This species prefers warm humid caves for roosting. There are no suitable roosting sites within the application area, and hence the area proposed to clear is unlikely to represent significant habitat for this species.

The blind snake (P1) was not recorded during the Bungaroo survey and has only been recorded once from the Pannawonica area, in 1991. Although rarely sighted, this species is thought to have a relatively wide distribution (Biota, 2007b). The sparse nature of the proposed clearing is unlikely to have any impact on the conservation status of this species.

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

**Methodology** Biota (2007b).  
Robe River (2007).

**(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**

Biota Environmental Sciences conducted a flora and vegetation survey of the application area and surrounding areas in March 2005 and July-August 2006 (Biota 2007a). The flora survey included intensive searches for rare flora. No Declared Rare Flora were recorded during the survey. Five species of Priority Flora were recorded in the broader survey area (Biota, 2007a). One of these species, *Abutilon trudgenii* ms (P3), was recorded in the south-east corner of the area applied to clear (Robe River, 2007). This species has been recorded from more than 200 sites throughout the Bungaroo valley, mainly on stony plains, and is also widely distributed throughout the Hamersley and Chichester subregions of the Pilbara Bioregion (Robe River, 2007). This species will be avoided where possible, however some plants are likely to be cleared (Robe River, 2007). Given its wide distribution outside of the application area, the proposed clearing is unlikely to affect the conservation status of this species.

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

**Methodology** Biota (2007a).  
Robe River (2007).  
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**

There are no known Threatened Ecological Communities (TEC's) within the area applied to clear (GIS Database). The nearest known TEC is the Themeda Grasslands approximately 90 kilometres south-east of the application area.

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 Hamersley subregion of the Pilbara Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Shepherd (2007) report that approximately 99.9% of the pre-European vegetation still exists in the IBRA Pilbara Bioregion, and approximately 100% still exists within the Hamersley subregion.

The vegetation of the application area is broadly mapped as predominantly Beard Vegetation Association Beard

Vegetation Association 609: 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). Shepherd (2007) report that there is approximately 100% of this vegetation type remaining, on both a State and Bioregion level.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% of Pre-European area in IUCN Class I-IV Reserves
IBRA Bioregion – Pilbara	17,804,187	17,794,646	~99.9	Least Concern	6.3
Beard veg assoc. – State					
609	74,186	74,186	~100	Least Concern	0
Beard veg assoc. – Bioregion					
609	74,186	74,186	~100	Least Concern	0

\* Shepherd (2007)

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

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

**Methodology** Dept of Natural Resources and Environment (2002).  
Shepherd (2007).  
GIS Database:  
- Interim Biogeographic Regionalisation of Australia (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 may be at variance to this Principle**

The application area is located in a broad valley and floodplain associated with the Bungaroo creek system (GIS Database; Robe River, 2007). A minor seasonal drainage line runs through the length of the application area and feeds into the Bungaroo Creek, which in turn feeds into the Robe River (GIS Database). Three of the six vegetation associations found within the application area are associated with drainage areas (Biota, 2007a).

The proposed clearing consists of a series of exploration gridlines across the application area in a northeast to southwest orientation. These gridlines will cross the drainage line in six locations, and the Department of Water (DoW) has granted the proponent a Permit to Interfere with Bed and Banks for these crossings (Robe River, 2007).

As some of the vegetation to be cleared is growing in association with a watercourse, the proposal may be at variance to this Principle. However, given the linear nature and comparatively small area (13.6ha) of the proposed clearing, distributed across a total application area of approximately 304 hectares, the impacts of the proposed clearing on the watercourse are likely to be minimal.

**Methodology** Biota (2007a).  
Robe River (2007).  
GIS Database:  
- Hydrography, Linear  
- Western Australia ETM 25m

**(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 majority of the application area lies within the Boolgeeda and Urandy Land Systems, with a small section (approx. 5 percent) at the northeastern corner of the application area broadly mapped as the Newman Land System.

The Boolgeeda Land System consists of stony lower slopes and plains below hill systems, supporting hard and soft spinifex grasslands and mulga shrublands. This land system is generally not susceptible to erosion (Van Vreeswyk et al., 2004).

The Urandy Land System consists of stony plains, alluvial plains and drainage lines supporting shrubby soft

spinifex grasslands. This land system is generally not susceptible to erosion (Van Vreeswyk et al., 2004).

The Newman Land System consists of jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands. This land system is not prone to erosion (Van Vreeswyk et al., 2004).

The majority of the application area consists of relatively flat stony ground in a broad valley. Given the flat terrain and the relatively small area of clearing (13.6 hectares) spread across an application area of approximately 304 hectares, the proposed clearing is unlikely to result in appreciable land degradation.

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

**Methodology** Van Vreeswyk et al. (2004)  
GIS Database:  
- Rangeland Land System Mapping

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

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

There are no conservation areas in close proximity to the application area (GIS Database). The nearest Department of Environment and Conservation (DEC) managed land is the Cane River Conservation Park approximately 58 kilometres west of the application area, and the Millstream-Chichester National Park approximately 70 kilometres north-east of the application area (GIS Database).

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

**Methodology** GIS Database:  
- DEC tenure

**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

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

A minor seasonal drainage line runs through the length of the application area (GIS Database), and the area is subject to flooding during extreme rainfall events (Robe River, 2007). However, the application area is located on relatively flat ground (GIS Database), consisting of stony soils not prone to erosion. Hence, the proposed clearing is not likely to result in any significant increase in sediments carried in surface water runoff. The proposed clearing for exploration gridlines is unlikely to impact on groundwater level or quality.

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

**Methodology** Robe River (2007).  
GIS Database:  
- Hydrography, Linear  
- Topographic Contours, Statewide

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

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

The application area is located in a broad valley and flood plain associated with the Bungaroo creek system (GIS Database; Robe River, 2007). A minor seasonal drainage line runs through the length of the application area and eventually feeds into the Bungaroo Creek, which in turn feeds into the Robe River (GIS Database). The region is subject to cyclones and natural flooding of the floodplain occurs during extreme rainfall events (Robe River, 2007). However the proposed clearing of 13.6 hectares spread over a total area of approximately 304 hectares is not likely to 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** Robe River (2007).  
GIS Database:  
- Hydrography, Linear  
- Western Australia ETM 25m

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

**Comments**

Clearing permit CPS 2009/1 was granted by the Department of Industry and Resources (now the Department of Mines and Petroleum (DMP)) on 17 January 2008 and authorised the clearing of up to 13.6 hectares of native vegetation within an area totalling approximately 304 hectares. Robe River Mining Co Pty Ltd applied to DMP

on 2 October 2009 to amend CPS 2009/1 to extend the duration of the permit date. Clearing permit CPS 2009/2 was granted by the Department of Mines and Petroleum (DMP) on 22 October 2009 and the permit date was extended to 1 February 2011. Robe River Mining Co Pty Ltd applied to DMP on 1 February 2010 to amend clearing permit CPS 2009/2 to extend the timeframe to complete rehabilitation from 6 months to 12 months following clearing. The area of authorised clearing and the clearing area boundary that was approved under clearing permit CPS 2009/2 will remain unchanged.

One public submission was received for this clearing permit application, raising concerns regarding potential impacts of the proposed clearing on Aboriginal Heritage sites and Native Title Rights within the application area.

There are no known Aboriginal Sites of Significance within the application area, however there is one site (ID 6862) within close proximity to the boundary of 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.

There is a native title claim (WC99/012) over the area under application (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenement has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (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*.

The application area partly overlaps with the area currently under assessment by the Environmental Protection Authority (EPA) for the proposed Bungaroo trial mine pit development. The EPA has advised that the proposed exploration works can proceed prior to the completion of the assessment of the mine development.

The proposed exploration gridlines will cross a seasonal creekline in six places. The Department of Water (DoW) has granted the proponent a Permit to Obstruct or Interfere with Bed and Banks under Section 17 of the *Rights in Water and Irrigation Act 1914* to allow for these creekline crossings (Robe River, 2007).

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, or any other licences or approvals are required for the proposed works.

**Methodology** Robe River (2007a).  
GIS Database:  
- Aboriginal Sites of Significance  
- Native Title Claims

#### 4. Assessor's comments

##### Comment

The amended proposal has been assessed against the Clearing Principles, and the amended proposal may be at variance to Principle (a) and (f), is not likely to be at variance to Principles (b), (c), (d), (g), (h), (i) and (j), and is not at variance to Principle (e).

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

#### 5. References

- Biota (2007a) A Vegetation and Seasonal Flora Survey of the Bungaroo Trial Pit and Transport Corridor to Mesa J, near Pannawonica, and Sampling of the Broader Bungaroo Valley. Biota Environmental Sciences, Western Australia, March 2007.
- Biota (2007b) Bungaroo Trial Pit and Transport Corridor to Mesa J, near Pannawonica - Fauna Assemblage Seasonal Survey. Biota Environmental Sciences, Western Australia, April 2007.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Robe River (2007) Application for a Native Vegetation Clearing Purpose Permit for Infill Drilling at Bungaroo. August 2007. Robe River Mining Company 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.
- Van Vreeswyk, A.M.E., Payne, A.L., Hennig, P., and Leighton, K.A. (2004) An Inventory and Condition Survey of the Pilbara Region, Western Australia. Department of Agriculture, Western Australia.

## 6. Glossary

### Acronyms:

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

### Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-

- P1** **Priority One - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P2** **Priority Two - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P3** **Priority Three - Poorly Known taxa:** taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
- P4** **Priority Four – Rare taxa:** taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
- R** **Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable):** taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
- X** **Declared Rare Flora - Presumed Extinct taxa:** taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

- Schedule 1** **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
- Schedule 2** **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
- Schedule 3** **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.
- Schedule 4** **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of

special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). *Priority Codes for Fauna*. Department of Conservation and Land Management, Como, Western Australia} :-

- P1** **Priority One: Taxa with few, poorly known populations on threatened lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P2** **Priority Two: Taxa with few, poorly known populations on conservation lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P3** **Priority Three: Taxa with several, poorly known populations, some on conservation lands:** Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P4** **Priority Four: Taxa in need of monitoring:** Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.
- P5** **Priority Five: Taxa in need of monitoring:** Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

**Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999*)**

- EX** **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.
- EX(W)** **Extinct in the wild:** A native species which:  
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or  
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
- CR** **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- EN** **Endangered:** A native species which:  
(a) is not critically endangered; and  
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- VU** **Vulnerable:** A native species which:  
(a) is not critically endangered or endangered; and  
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
- CD** **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.