



## 1. Application details

### 1.1. Permit application details

Permit application No.: 2421/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: **AngloGold Ashanti Australia Limited**

### 1.3. Property details

Property: Mining Lease 39/217  
Mining Lease 39/348  
Local Government Area: Shire of Laverton  
Colloquial name: Sunrise Dam Gold Mine

### 1.4. Application

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

## 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>The area applied to clear has been broadly mapped at a scale of 1:250,000 as:</p> <p>Beard Vegetation Association 18: Low woodland; Mulga (<i>Acacia aneura</i>); and</p> <p>Beard Vegetation Association 389: Succulent steppe with open low woodland; Mulga over saltbush (GIS Database).</p> <p>Mattiske Consulting Pty Ltd (2003) undertook three flora and vegetation surveys at the Sunrise Dam Gold Mine between 1999 and 2003. Vegetation mapping was undertaken for the mine site (including the area subject to this clearing permit application). The following three vegetation communities were mapped from the proposed clearing area (Mattiske Consulting Pty Ltd, 2003):</p> <p><b>Acacia Woodlands</b></p> <p>A1. Open Woodland of <i>Acacia ayersiana</i> var. <i>latifolia</i> and <i>Acacia tysonii</i> over <i>Eremophila miniata</i>, <i>Cratystylis subspinescens</i>, <i>Hakea preissii</i>, <i>Atriplex vesicaria</i> subsp. <i>appendiculata</i> and <i>Solanum lasiophyllum</i> over <i>Aristida contorta</i> in red loamy soil on ridges.</p> <p><b>Chenopod Shrublands</b></p> <p>C1. Shrubland of Chenopod species such as <i>Maireana pyramidata</i>, <i>Maireana sedifolia</i>, <i>Maireana melanocoma</i>, <i>Atriplex vesicaria</i> subsp. <i>appendiculata</i>, <i>Ptilotus obovatus</i>, <i>Enchylaena tomentosa</i> var. <i>tomentosa</i> and <i>Frankenia setosa</i> with occasional emergent <i>Hakea preissii</i>, <i>Acacia ramulosa</i> var. <i>linophylla</i> and <i>Eremophila miniata</i>, <i>Acacia ayersiana</i> var. <i>latifolia</i> and <i>Acacia aneura</i> var. <i>aneura</i> over <i>Acacia kalgoorliensis</i> and <i>Hakea preissii</i> in clay loam soils.</p>	<p>This clearing permit application is for an Area Permit to clear up to 10.1 hectares of native vegetation at the Sunrise Dam Gold Mine, located approximately 55 kilometres south of Laverton. The proposed clearing will allow the proponent to undertake remediation works on the existing Sunrise waste dump which is highly eroded. The current waste dump footprint will extend by approximately 40 metres as the slope of the dump is reshaped in a concave manner (S. Pollock - Environmental Coordinator, pers comm. 15/04/08). Following reshaping, the dump will be capped with hard rock to prevent any future erosion. Vegetation and topsoil will then be re-spread, followed by ripping and seeding (S. Pollock - Environmental Coordinator, pers comm. 15/04/08). No additional waste material will be placed on the dump (S. Pollock - Environmental Coordinator, pers comm. 15/04/08).</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p>	<p>The proposed clearing area is located at the Sunrise Dam Gold Mine, on the Mt Weld pastoral station (GIS Database). Despite this, domestic animals such as goats (<i>Capra hircus</i>) and sheep (<i>Ovis aries</i>) were not common and were only observed in small herds around the mine site by Ninnox Wildlife Consulting (2005).</p>

C2. Shrubland of *Hakea preissii*, *Acacia tysonii*, *Eremophila miniata*, *Pimelea microcephala* subsp. *microcephala*, *Exocarpos aphyllus* and *Pittisporum angustifolium* over *Atriplex vesicaria* subsp. *appendiculata*, *Maireana aphylla*, *Rhagodia drummondii*, *Cratystylis subspinescens* and *Senna artemisoides* subsp. *filifolia* over *Aristida holathera* var. *holathera* and *Solanum orbiculatum* subsp. *orbiculatum* and low Chenopod species in clay loam soils.

### 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 area applied to clear is within the Eastern Murchison Interim Biogeographic Regionalisation for Australia (IBRA) subregion (GIS Database). The Eastern Murchison subregion is characterised by internal drainage and extensive areas of elevated red desert sandplains with minimal dune development (CALM, 2001). Vegetation of the subregion is dominated by Mulga woodlands (often rich in ephemerals), hummock grasslands, saltbush shrublands and Halosarcia shrublands (CALM, 2001). Pastoral grazing occurs over a vast majority of the subregion, and consequently, much of the subregion has been severely degraded by feral herbivores. Mining for gold and nickel in the region is considerable, with most mining tenements occurring on pastoral land (CALM, 2001).

The proposed clearing will involve disturbing a small strip of native vegetation (40 metres wide and 2.5 kilometres long) which abuts the existing Sunrise waste dump at the Sunrise Dam Gold Mine. A power line corridor and mine access road are located in close proximity to the east of the area under application.

The native vegetation to be disturbed consists of Acacia Woodlands and Chenopod Shrublands that are well represented both locally and regionally (Mattiske Consulting Pty Ltd, 2003; GIS Database). No Declared Rare Flora (DRF), Priority Flora or Threatened Ecological Communities (TEC's) are known from the proposed clearing area (Mattiske Consulting Pty Ltd, 2003; GIS Database). No unique landform, soil or vegetation types are present which may provide significant habitat for fauna (Mattiske Consulting Pty Ltd, 2003; Ninnox Wildlife Consulting, 2005). In addition, the proximity of the vegetation to be cleared to the Sunrise waste dump and associated mine infrastructure lowers the biodiversity value of the area.

Three introduced flora species have been recorded from the Sunrise Dam Gold Mine. Of these, Black Berry Nightshade (*Solanum nigrum*) is of concern (Mattiske Consulting Pty Ltd, 2003). Should a clearing permit be granted, it is recommended that a condition be imposed on the permit to ensure that clearing operations do not spread weeds onto the Sunrise waste dump.

It is highly unlikely that vegetation within the proposed clearing area would support a higher level of biological diversity than other area of native vegetation in the local or regional area.

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

##### Methodology

Mattiske Consulting Pty Ltd (2003).

Ninnox Wildlife Consulting (2005).

GIS Databases:

- Declared Rare and Priority Flora List.
- Interim Biogeographic Regionalisation for Australia (Subregions).
- Pre European Vegetation.
- Threatened Ecological Communities.

#### (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**

Ninnox Wildlife Consulting (2005) undertook systematic sampling of vertebrate fauna at the Sunrise Dam Gold Mine during Autumn (March), Winter (July) and Spring (September) of 2004. The survey consisted of five days of systematic bird sampling and six nights of vertebrate trapping in each of the three seasons. Some additional sampling was also conducted in November 2004 in an attempt to gather further information on the fauna of the study area. The 2004 survey built upon results obtained from a single season vertebrate fauna survey undertaken by Ninnox Wildlife Consulting in April 1995 prior to the commencement of mining in the area (Ninnox Wildlife Consulting, 2005).

Six sites were sampled for vertebrate fauna as part of the 2004 survey, representing the dominant vegetation communities of the Sunrise Dam Gold Mine. Sampling consisted of systematic bird sampling and pitfall, funnel, cage and Elliot trapping for reptiles, amphibians and mammals (Ninnox Wildlife Consulting, 2005).

Ninox Wildlife Consulting (2005) observed a total of 80 bird species during the systematic sampling at the Sunrise Dam Gold Mine. One species listed as Schedule 4 'Other Specially Protected Fauna' under the *Wildlife Conservation (Specially Protected Fauna) Notice 2006* was observed during the study. This species, the Peregrine Falcon (*Falco peregrinus*), is a wide ranging and mobile species which is unlikely to be impacted by the proposed clearing. No other bird species of conservation significance were recorded.

A total of 10 mammal species were recorded by Ninox Wildlife Consulting (2005). Whilst not captured, the Mulgara (*Dasyercus cristicauda*), listed as Schedule 1 - 'Fauna that is rare or likely to become extinct' under the *Wildlife Conservation (Specially Protected Fauna) Notice 2006* and 'Vulnerable' under the *Environment Protection and Biodiversity Conservation Act 1999* has the potential to occur within the Eucalyptus over Spinifex vegetation community to the south of the proposed clearing area. This habitat type is not present within the proposed clearing area and consequently Mulgara would not likely be found within the area under application.

Forty species of reptile were recorded from the Sunrise Dam Gold Mine by Ninox Wildlife Consulting (2005). None of these species are listed under either State or Commonwealth legislation, hence their conservation status is not considered to be under threat. No reptile species considered rare, threatened or vulnerable are expected to occur at the Sunrise Dam Gold Mine (Ninox Wildlife Consulting, 2005).

Three species of frog were recorded from the Sunrise Dam Gold Mine during the 2004 vertebrate fauna survey. All three species are considered common in the arid zone. No rare, threatened or vulnerable frog species are expected to occur in the mine lease area (Ninox Wildlife Consulting, 2005).

A number of introduced fauna species have been recorded from the Sunrise Dam Gold Mine. This includes the House Mouse (*Mus musculus*), Rabbit (*Oryctolagus cuniculus*) Cat (*Felis catus*), Horse (*Equus caballus*), Sheep (*Ovis aries*) and Goat (*Capra hircus*). Whilst recorded, none of these introduced species were noted to be particularly prevalent at the site.

Ninox Wildlife Consulting (2005) report that the Sunrise Dam Gold Mine supports vertebrate fauna species that occur throughout the Eastern Goldfields region. No habitats of regional significance are found at the mine site, although some habitats of local significance (Eucalyptus over Spinifex) do occur. It must be acknowledged that this habitat type is not present within the area subject to this clearing permit application.

In summary, this clearing proposal is for a narrow linear strip of native vegetation which abuts an existing waste dump and is adjacent to a power line corridor and access track. It is unlikely that the area would serve any purpose as a corridor through which fauna could move through the landscape. Furthermore, habitat loss as a result of this clearing proposal is likely to be minor and of a temporary nature due to rehabilitation of the waste dump following the completion of the remedial works associated with this proposal.

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

**Methodology** Ninox Wildlife Consulting (2005).

**(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**

There are no known records of Declared Rare Flora (DRF) or Priority Flora within the proposed clearing area (GIS Database).

Mattiske Consulting Pty Ltd has not recorded any DRF species at the Sunrise Dam Gold Mine, despite three separate flora and vegetation surveys between 1999 and 2003 (Mattiske Consulting Pty Ltd, 2003). The nearest known record of DRF is a population of *Conospermum toddii*, located approximately 115 kilometres north/north-east (GIS Database). It is therefore considered unlikely that the proposed clearing will impact on any DRF species.

With respect to Priority Flora, *Halosarcia sp. Angel Fish Island* (P1) was recorded from the mine site during a flora and vegetation survey in 2001. This species has also been observed at various locations around Lake Carey, a large salt lake system located approximately 3.5 kilometres west of the proposed clearing area. Since 2001, *Halosarcia sp. Angel Fish Island* has been formally described. The informal phrase name '*Halosarcia sp. Angel Fish Island*' is no longer current, and the species has been formally named *Tecticornia mellaria*. This species remains on the Priority Flora list as Priority 1.

*Tecticornia mellaria* is an erect, perennial shrub, 0.2-0.4 metres high. The species has previously been recorded on well-drained red gypseous sand, clay, gypseous dunes, margins of playa lakes and on clay pans in the Murchison bioregion (Western Australian Herbarium, 2008). The proposed clearing area abuts an existing waste dump and is characterised by Acacia Woodlands and Chenopod Shrublands with clay loam soils (Vegetation communities A4, C1 and C2). *Tecticornia mellaria* has previously been recorded in Chenopod Shrublands community C3, which is largely on the margins of Lake Carey. *Tecticornia mellaria* has not been recorded from communities A4, C1 or C2 (Mattiske Consulting Pty Ltd, 2003). It is therefore unlikely that this species would occur in the proposed clearing area.

*Acacia kalgoorliensis* was recorded from the Sunrise Dam Gold Mine in 1999. At the time, this species was

ranked as 'Priority 3'. *Acacia kalgoorliensis* was removed from the Priority list in 1999 (Mattiske Consulting Pty Ltd, 2003).

The vegetation types within the proposed clearing area are well represented both locally and regionally (Mattiske Consulting Pty Ltd, 2003) and are unlikely to be necessary for the continued in situ existence of DRF or Priority Flora.

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

**Methodology** Mattiske Consulting Pty Ltd (2003).  
Western Australian Herbarium (2008).  
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, or in close proximity to the proposed clearing area (GIS Database). The nearest known TEC is located approximately 255 kilometres west/north-west of the proposed clearing area (GIS Database).

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 area applied to clear is within the Interim Biogeographic Regionalisation for Australia (IBRA) Murchison bioregion (GIS Database). According to Shepherd et al (2001) there is approximately 100% of the pre-European vegetation remaining in the Murchison bioregion.

The vegetation of the application area is classified as Beard Vegetation Association 18: Low woodland; Mulga (*Acacia aneura*); and Beard Vegetation Association 389: Succulent steppe with open low woodland; Mulga over saltbush (GIS Database). There is approximately 100% of the pre-European vegetation remaining of both Beard Vegetation Associations 18 and 389 in the Murchison bioregion (Shepherd et al, 2001).

Whilst Beard Vegetation Associations 18 and 389 are not well represented in conservation reserves, the area proposed to clear does not represent a significant remnant of vegetation in the wider regional area. The proposed clearing will not reduce the extent of Beard Vegetation Associations 18 or 389 below current recognised threshold levels, below which species loss increases significantly.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA bioregion – Murchison	28,120,558	28,120,558	~100	Least concern	1.1
Beard veg assoc. – State					
18	19,892,437	19,890,348	~100	Least concern	2.1
389	642,358	642,358	~100	Least concern	0.3
Beard veg assoc. – bioregion					
18	12,403,248	12,403,248	~100	Least concern	0.4
389	493,979	493,979	~100	Least concern	0.4

\* Shepherd et al. (2001) updated 2005

\*\* 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 et al (2001).  
GIS Databases:  
- 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 likely to be at variance to this Principle**

There are no permanent watercourses or wetlands in the proposed clearing area (GIS Database). There are some low lying areas present in the area under application that collect run-off from an access track situated immediately to the east and running parallel to the proposed clearing area (S. Pollock - Environmental Coordinator, pers comm. 06/05/08). Vegetation mapping at the Sunrise Dam Gold Mine suggests that vegetation in the proposed clearing area consists of Chenopod shrublands and Acacia Woodlands that are common both locally and regionally.

The Lake Carey salt lake system is located approximately 3.5 kilometres west of the proposed clearing area (GIS Database). It is not expected that this clearing proposal will have any impact upon Lake Carey.

The proposed clearing is unlikely to remove riparian vegetation or impact upon any wetlands or watercourses of significant environmental value.

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

**Methodology** Mattiske Consulting Pty Ltd (2003).  
GIS Database:  
- Hydrography, linear.

**(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**

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

The proposed clearing area is within the Carnegie land system, as mapped by Curry et al (1994) (GIS Database). The Carnegie land system is characterised by salt lakes with extensive fringing saline plains, dunes and sandy banks supporting low halophytic shrublands and scattered tall Acacia shrublands (Curry et al, 1994). Relief in the Carnegie land system is generally less than 7 metres, and erosion susceptibility is low.

It is acknowledged that the proposed clearing will allow the proponent to undertake remediation works on a waste dump that is highly eroded. The current waste dump footprint will extend by approximately 40 metres as the slope of the dump is reshaped in a concave manner (S. Pollock - Environmental Coordinator, pers comm. 15/04/08). Following reshaping, the dump will be capped with hard rock to prevent any future erosion. Vegetation and topsoil will then be re-spread, followed by ripping and seeding (S. Pollock - Environmental Coordinator, pers comm. 15/04/08). No additional waste material will be placed on the dump (S. Pollock - Environmental Coordinator, pers comm. 15/04/08). It is expected that should a clearing permit be granted to the proponent, positive environmental outcomes will result as a highly eroded waste dump will be stabilised.

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

**Methodology** Curry et al. (1994).  
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 areas managed for conservation in close proximity to the proposed clearing area (GIS Database). The nearest conservation area is an un-named nature reserve, located approximately 100 kilometres west/south-west of the proposed clearing area (GIS Database).

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

**Methodology** GIS Database:  
- 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**

There are no watercourses or wetlands in the proposed clearing area (GIS Database). Surface water at the mine site moves from east to west towards the proposed clearing area and the Sunrise waste dump (S. Pollock - Environmental Coordinator, pers comm. 06/05/08). There are some low lying areas present in the area under application that collect run-off from an access track situated to the east and running parallel to the proposed clearing area (S. Pollock - Environmental Coordinator, pers comm. 06/05/08).

The Lake Carey salt lake system is located approximately 3.5 kilometres west of the proposed clearing area (GIS Database). The proposed clearing area abuts the existing Sunrise waste dump and open cut pits and mining infrastructure exist between Lake Carey and the proposed clearing area. It is therefore highly unlikely that this clearing proposal will have any impact upon the water quality of Lake Carey.

The proposed clearing area is not located within a Public Drinking Water Source Area (GIS Database). The clearing proposal is not expected to have any significant adverse impacts upon groundwater levels or quality.

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

**Methodology** GIS Database:  
 - Hydrography, linear.  
 - Public Drinking Water Source Areas (PDWSAs).

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

**Comments** **Proposal is not likely to be at variance to this Principle**  
 The proposed clearing area is located in an arid environment which is characterised by cool winters and hot, dry summers (Mattiske Consulting Pty Ltd, 2003). Average annual rainfall for the region is approximately 231 millimetres.

The Sunrise Dam Gold Mine is located on the eastern edge of Lake Carey, a large salt lake system which is subject to infrequent inundation. Extensive flooding has previously occurred in the region following cyclonic rains (Ninox Wildlife Consulting, 2005). The proposed vegetation clearing is not expected to increase the incidence or intensity of such natural flood events.

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

**Methodology** Mattiske Consulting Pty Ltd (2003).  
 Ninox Wildlife Consulting (2005).

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

**Comments**  
 There is one native title claim over the area under application (GIS Database). This claim (WC99/001) has been registered with the National Native Title Tribunal on behalf of the claimant group (GIS Database). However, the mining tenements have 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 six registered Sites of Aboriginal Significance within the area applied to clear (GIS Database). Anglogold Ashanti Australia Limited have advised that Section 18 approval has been granted to disturb three of these sites, in accordance with the *Aboriginal Heritage Act 1972*. The remaining three sites will be avoided during the clearing process and will not be disturbed (S. Pollock - Environmental Coordinator, pers comm. 24/04/08). 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.

**Methodology** GIS Databases:  
 - Aboriginal Sites of Significance.  
 - Native Title Claims.

**4. Assessor's comments**

Purpose	Method	Applied area (ha)/ trees	Comment
Mineral Production	Mechanical Removal	10.1	The Clearing Principles have been addressed and the proposed clearing is not likely to be at variance to Principles (a), (b), (c), (d), (f), (g), (h), (i) or (j) and is not at variance to Principle (e).  Should the 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

- CALM (2001) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Murchison 1 (MUR 1 - East Murchison subregion).
- Curry, P.J., Payne, A. L., Leighton, K.A., Hennig, P. & Blood, D.A (1994) Technical Bulletin: An inventory and condition survey of the Murchison River catchment and surrounds, Western Australia. No. 84. Department of Agriculture Western Australia, South Perth.
- 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.
- Mattiske Consulting Pty Ltd (2003) Summary of 1999, 2001 and 2003 Flora and Vegetation Surveys of Mining Leases at Sunrise Dam Gold Mine (Laverton). Prepared for AngloGold Australia Limited, Sunrise Dam. May 2003.
- Ninox Wildlife Consulting (2005) Vertebrate Fauna Survey Results 2004: Sunrise Dam Gold Mine. Prepared for AngloGold Ashanti Australia Limited, Sunrise Dam. March 2005.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia (updated 2005).
- Western Australian Herbarium (2008) Florabase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.calm.wa.gov.au/>

## 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>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.