



## 1 Application details

### 1.1. Permit application details

Permit application No.: 960/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Big Bell Gold Operations

### 1.3. Property details

Property: M21/7  
Local Government Area: Shire Of Cue  
Colloquial name: Yellow-Taxi

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
20		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
Beard Vegetation Association 313: Succulent steppe with open scrub; scattered <i>Acacia sclerosperma</i> & <i>A. vitoriae</i> over bluebush.  (Hopkins et al. 2001; Shepherd et al. 2001).	The proposal is for the clearing of up to 20 hectares of native vegetation for the proposed Yellow Taxi ore pad, abandonment bund and waste landform extension area.  A flora survey of the area proposed to be cleared was conducted by Outback Ecology in November 2005 during which no Declared Rare Flora or Priority Flora were identified (Outback Ecology, 2005). The proposed areas of clearance were divided into three sections with the vegetation type for each described as follows:  Proposed Ore Pad - Approximately 40% of area devoid of vegetation with the remainder predominantly an Open Dwarf Scrub of <i>Chenopod</i> species ( <i>Maireana</i> , <i>Sclerolaena</i> and <i>Atriplex</i> spp);  Proposed Waste Landform Extension - Open Dwarf Scrub of <i>Chenopod</i> species ( <i>Halosarcia pergranulata</i> ssp. <i>pergranulata</i> , <i>Maireana tomentosa</i> , <i>M. amoena</i> , <i>Sclerolaena diacantha</i> , <i>S. obliquicuspis</i> and <i>Sclerostegia disarticulata</i> and <i>Frankenia setosa</i> ). The area also contained remnants of an Open Low Woodland of <i>Acacia aneura</i> ;  Proposed Abandonment Bund - Open Dwarf Scrub of <i>Chenopod</i> species similar to that of the proposed waste landform extension with scattered larger specimens of <i>Acacia aneura</i> , <i>Maireana triptera</i> and <i>M. pyramidata</i> .	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The vegetation of the Yellow Taxi area is generally degraded due to past exploration, mining and pastoral activities. Timber cutting during the mining boom in the early 1900's and vehicle access have also contributed to the degraded state of the vegetation across the area under application (Harmony Gold Pty Ltd, 2005).

Five weed species were identified within the footprint of the proposed ore pad; *Centaurea melitensis* (Maltese cockspur), *Medicago polymorpha* (Bur medic), *Emex australis* (Doublegee), *Datura ferox* (Fierce Thornapple) and possibly *Tripteris clandestina*.

### 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 Cue and surrounding areas have been subject to mining activity since the late 1800's. There are a number of open-cut and underground mines, both recent and historical, within the leases surrounding the Yellow Taxi project area (Harmony Gold Pty Ltd, 2005).

The area proposed to be cleared is located on the Austin Downs pastoral station. The vegetation condition across this area is considered to be 'degraded', with the basic vegetation structure impacted by disturbance in the form of partial clearing, grazing, weeds and vehicle access tracks (Outback Ecology, 2005).

No known Declared Rare Flora or Priority species are located within the area under application, and the vegetation associations that exist within the project area are well represented both locally and regionally (Outback Ecology 2005; GIS Database). It is unlikely that the biodiversity at the site of this proposal would be considered outstanding, or of a higher diversity than in the Murchison bioregion, the Shire of Cue or the local area.

In consideration of the above, it is unlikely that the proposal is at variance to this principle.

**Methodology**      Outback Ecology (2005).  
Harmony Gold Pty Ltd (2005).  
GIS databases:  
- Declared Rare and Priority Flora List - CALM 01/07/05.  
- Pre- European Vegetation - DA 01/01.

#### (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**

A fauna survey was conducted by Ecologia in May 1994, across the Golden Crown project area situated approximately 3 km north-east of the Yellow Taxi area under application (Ecologia, 1994). The vegetation types and species composition across the two project areas are very similar, and provide comparable habitat for fauna species within the local area. During the field survey across the Golden Crown area, 30 species of bird, 1 native mammal, 5 introduced mammals and 4 reptiles were recorded. No amphibians were recorded and none of the above species were of conservation significance (PosGold (Golden Crown) Pty Ltd, 1994).

Ecologia considered that two Schedule 1 species; the Grey Falcon (*Falco hypoleucos*) and the Thick-billed Grass Wren (*Amytornis textilis*), as well as the Schedule 2 species; the Peregrine Falcon (*Falco peregrinus*) and Major Mitchell's Cockatoo (*Cacatua leadbeteri*) may all potentially occur within the project area, however, none of these species were recorded during the fauna survey and it is considered that the project area does not support these species or contain suitable habitats (PosGold (Golden Crown) Pty Ltd, 1994).

CALM advise that based on the relatively confined nature of the clearing adjacent to existing mining operations and the degraded condition of the area proposed to be cleared, the proposal is unlikely to impact on a significant habitat for native fauna (CALM, 2006).

**Methodology**      Ecologia (1994).  
PosGold (Golden Crown) Pty Ltd (1994).  
CALM (2006).  
GIS databases:  
- Pre-European Vegetation - DA 01/01.

**(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 the available CALM datasets, no Priority or Declared Rare Flora (DRF) species are known to occur within the area under application (GIS Database).

Outback Ecology were engaged to conduct a flora survey across the Yellow Taxi area subject to this proposal (Outback Ecology, 2005). A search of CALM's Threatened Flora database and the Western Australian Herbarium Specimen (WAHERB) database was conducted to identify rare and priority species which have been recorded within a 100km radius of the Yellow Taxi project area. One rare and 17 Priority flora species had previously been collected within the database search area, however, the closest previously sampled rare and priority flora species within a 10km radius of the project area were found to exist around the Cue townsite, located approximately 8.2km north-east of the Yellow Taxi area.

Known rare and priority species recorded in the proximity of the Cue townsite include; *Eremophila rostrata* (R), *Dodonaea sp.* (P1), *Drummondita miniata* (P3), *Grevillea inconspicua* (P4), *Maireana prosthecochoaeta* (P3), *Micromyrtus sp. Murchison* (P1) and *Prostanthera petrophila* (P1), however, no populations or individual specimens of these species were located within the area under application during the recent Outback Ecology flora survey, or in 1992 by Normandy Poseidon Limited over the same project area (Outback Ecology, 2005; Poseidon Gold (Golden Crown) Pty Ltd, 1994).

Although the Outback Ecology survey was conducted outside of the optimum spring period, the majority of flora species including *Chenopods*, *Ptilotus*, *Angianthus*, *Frankenia* and *Solanum* species were flowering or fruiting at the time of the November survey (Outback Ecology, 2005), hence the timing of the survey is not considered to be a serious limitation in the context of this proposal.

All native species identified during the flora survey are well represented outside of the proposed area of disturbance (Outback Ecology, 2005) and it is therefore unlikely that the proposed clearing will impact on significant habitat for rare and priority flora species.

CALM advise that based on the findings of the flora survey conducted by Outback Ecology, and taking into consideration the phenology and habitat preferences of the known conservation category flora from the local area, this proposal is unlikely to impact on DRF and/or Priority flora species (CALM, 2006).

Consequently, it is unlikely that the proposal is at variance to this principle.

**Methodology** Outback Ecology (2005).  
Poseidon Gold (Golden Crown) Pty Ltd (1994).  
CALM (2006).  
GIS databases:  
- Declared Rare and Priority Flora List -CALM 01/07/05.

**(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 records of Threatened Ecological Communities (TECs) within the Yellow Taxi project area. The nearest known TEC is approximately 240 km south-west of the application area (GIS Database).

Based on CALM database information it would appear that no known TECs are located within the application area, and as such CALM concurs with DoIR's assessment that this proposal is unlikely to be at variance with this principle (CALM, 2006).

**Methodology** CALM (2006).  
GIS databases:  
- Threatened Ecological Communities - CALM 12/04/05.

**(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 State Government is committed to the National Objectives Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-European settlement (Department of Natural Resources and Environment, 2002; EPA, 2000).

While the benchmark of 15% representation in conservation reserves (JANIS Forests Criteria, 1997) has not been met for Beard vegetation association 313, approximately 100% of the pre-European extent respectively remains for this association and it is therefore of 'least concern' for biodiversity conservation (Department of Natural Resources and Environment, 2002).

	Pre-European area (ha)	Current extent (ha)	Remaining %*	Conservation Status**	% in IUCN Class I-IV reserves
IBRA Bioregion - Murchison Shire of Cue	28,206,195*	28,206,195*	100%	Least concern	
Beard vegetation associations - 313	77,838	77,838	100%	Least concern	0%

\* Shepherd et al. (2001)

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

**Methodology** Shepherd et al. (2001).  
EPA (2000).  
JANIS Forests Criteria (1997).  
Department of Natural Resources and Environment (2002).  
GIS Databases:  
- Pre-European Vegetation - DA 01/01.  
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00.  
- Local Government Authorities - DLI 8/07/04.

**(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**  
Creek flow systems outside of the project area have been modified through previous mining activities, however, there are no watercourses or wetlands within the area proposed to be cleared. Consequently, the mining developments associated with this proposal will not impact upon any creek systems or watercourses (Harmony Gold Pty Ltd; GIS Database).

In consideration of the above factors, it is unlikely that the proposed clearing is at variance to this principle.

**Methodology** Harmony Gold Pty Ltd (2005).  
GIS databases:  
- Hydrography, linear - DOE 01/02/04.  
- Lakes 250K - GA.  
- River 250K - GA.

**(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 Yellow Taxi project area is relatively flat, as is most of the surrounding landscape (Somesan, 2006). Two soil types exist in the project area, with the first of these typical of the drainage tract Acacia shrubland/woodland with chenopod understorey (DACs) vegetation type. These soils are characteristically shallow overlying hardpan. The second soil type is typical of the breakaway footslope chenopod low shrubland (BCLS), with soils being shallow, saline duplex types overlying granite. The stone mantle associated with the latter of these soil types acts as a stabiliser against erosion (Harmony Gold Pty Ltd, 2005). Based on site topography, hydrology and soil type, it is unlikely that the clearing associated with this proposal will increase the incidence of erosion across the project area.

DAWA advise that the proposed clearing and mine development appears to straddle two land systems, namely the Gabanintha and Austin land systems (DAWA, 2006). The Gabanintha land system is described as comprising ridges and rounded hills of basalt, dolerite, jaspillite and greenstone, supporting mulga mixed shrubland vegetation on stoney plain. The Austin land system is described as saline stoney plain with low rises supporting low haloptich shrubland with scattered mulga. DAWA advise that these land systems are not regarded as being particularly prone to erosion under pastoral use, and that the clearing of vegetation for mining purposes is unlikely to be a serious risk as the cleared land will be developed for open-cut mining and rock stockpiles. Any disturbance to natural drainage lines as a result of the proposed expansion has the potential to accelerate soil erosion, however, it is concluded that the proposal is unlikely to be at variance to principle 'g' for soil erosion.

The clearing associated with this proposal will not significantly increase on-site salinisation as saline soils are common throughout the area under application (Somesan, 2006). The soil pH across the Yellow Taxi area ranges from 7-9, and as average annual rainfall across the project area is low at 240mm/year (Harmony Gold Pty Ltd, 2005), the proposed clearing of vegetation is unlikely to increase soil acidity across the site.

During the flora survey conducted by Outback Ecology, five weed species were identified within the footprint of the proposed ore pad. The identified species were *Centaurea melitensis* (Maltese cockspur), *Medicago*

*polymorpha* (Bur medic), *Emex australis* (Doublegee), *Datura ferox* (Fierce thornapple) and possibly *Tripteris clandestina* (Outback Ecology, 2005). Conditions have been imposed on the permit to prevent the further introduction and spread of weeds throughout the Yellow Taxi project area. Furthermore, Harmony Gold advise that existing weeds as identified at the north-east end of the current ore pad will be completely covered to a depth of 1 metre with excavated waste material from the Yellow Taxi pit. This work will be carried out upon commencement of mining at Yellow Taxi (De Roer, 2006).

In consideration of the above factors and Harmony Gold's commitment to environmental management and site rehabilitation, it is unlikely that the proposal is at variance to this principle.

**Methodology** Harmony Gold Pty Ltd (2005).  
DAWA (2006).  
Ferdia Somesan, Environmental Officer, Harmony Gold Pty Ltd (pers comm. 24/01/2006).  
Karen De Roer, Environmental Officer, Harmony Gold Pty Ltd (pers comm. 02/02/2006).

**(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 at variance to this Principle**  
There are no CALM managed conservation areas within the area proposed to be cleared, with the nearest being a timber reserve located approximately 220km south-west of the Yellow Taxi project area (GIS Database). The vegetation within the proposal does not serve as a significant ecological linkage, or buffer to regional conservation areas.

Based on the separating distance between the project area and the nearest CALM managed reserves, the proposed clearing is not at variance to this principle.

**Methodology** GIS databases:  
- CALM Managed Lands and Waters - CALM 01/07/05.

**(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 within the area proposed to be cleared, consequently, the mining developments associated with this proposal will not have any impact upon surface water quality (Harmony Gold Pty Ltd 2005; GIS Database).

The area to be cleared does not fall within a Public Drinking Water Source Area (PDWSA) or PDWSA Protection Zone. The Cue Water Reserve is situated approximately 10km north-east of the area to be cleared (GIS Database), however, this will not be impacted upon as it is upslope of the area under application.

Harmony Gold advise that groundwater at the Yellow Taxi area is neutral (pH 7.9) and highly saline at approximately 143,000 milligrams per litre of Total Dissolved Solids (TDS). The quality of groundwater will not be impacted upon by the clearing activity (Harmony Gold Pty Ltd, 2005).

The relatively small area of native vegetation to be cleared is unlikely to have an impact on regional groundwater considering the magnitude of the regional Yilgarn-Murchison groundwater province (>101,000 sq km) and the extent of native vegetation remaining in the Murchison Bioregion, which is approximately 100% (Shepherd et al, 2001).

Furthermore, Harmony Gold advise within the '*Notice of Intent for the Yellow Taxi Open-Cut Extension*' that the groundwater table is approximately 12 metres below the ground and no production bores are located within the project area. Considering the isolated nature of the site and minimal potential hazards ie. no bulk fuel storage etc., potential impacts on groundwater are considered minor (Harmony Gold Pty Ltd, 2005).

Harmony Gold have committed to monitoring groundwater as part of their on-going environmental management. The volume and electrical conductivity of water from the Yellow Taxi pit will be measured monthly and the groundwater level will be monitored quarterly. Monitoring also includes quarterly sampling of the water discharged to Lake Austin for a suite of parameters including :

- pH;
- electrical conductivity;
- total dissolved solids;
- total suspended solids;
- heavy metals (Harmony Gold Pty Ltd, 2005).

In consideration of the above factors, the proposal is not likely to be at variance to this principle.

**Methodology** Harmony Gold Pty Ltd (2005).  
Shepherd et al. (2001).

GIS Databases:

- Hydrography, linear - DOE 01/02/04.
- Lakes 250K - GA.
- River 250K - GA.
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00.
- Groundwater Provinces - WRC 98.
- Public Drinking Water Supply Areas (PDWSAs) - DOE 28/4/05.
- PDWSA Protection Zones -DOE 7/1/04.

**(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 at variance to this Principle**

Given the relatively small area to be cleared, it is unlikely that the clearing of native vegetation will create a catchment area large enough to increase the incidence of flooding.

Harmony Gold advise that average annual rainfall for the Cue area is low at 240mm/year, with annual rainfall distribution typically bimodal with erratic, often heavy summer rains associated with northern cyclonic activity. Surface flow in the Yellow Taxi area generally occurs only after heavy rainfall events. These flows occur initially in broad sheetwash zones with intermittent braided drainages, and reduce rapidly in gradient to either become isolated clay pans or feed directly into wide paleodrainage, eventually leading to Lake Austin. There are no drainage channels in the area and the flood waters tend to follow a number of minor drainage channels (Harmony Gold Pty Ltd, 2005).

Harmony Gold have detailed the following stormwater management actions in accordance with the 'Notice of Intent for the Yellow Taxi Open-Cut Extension':

- internal storm drainage will be channelled towards sumps at the base of each pit;
- culverts/pipes will be installed to maintain creek-road crossings to the standard required for haulage; and
- all work will be conducted in accordance with the Harmony weather alert and storm management procedure (Harmony Gold Pty Ltd, 2005).

In consideration of the above factors, it is unlikely that the clearing associated with this proposal is at variance to this principle.

**Methodology** Harmony Gold Pty Ltd (2005).

- GIS Databases:
- Hydrography, linear - DOE 01/02/04.

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

**Comments**

There is one native title claim over the area under application; WC99/046. This claim has been registered with the National Native Title Tribunal on behalf of the Yugunga Nya claimant group. 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 (ie. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no Aboriginal sites of significance within the area under application. 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.

The proponent has a current EP Licence (7264/8) valid until 3 March 2008 and no amendment to this licence has been submitted.

The proponent also holds an inforce water licence (GWL156542) for the purposes of dewatering and dust suppression which expires on 9 September 2009.

**Methodology** DoE (2005).

- GIS Databases:
- Aboriginal Sites of Significance - DIA 04/07/02.
  - Native Title Claims - DLI 19/12/04.

**4 Assessor's recommendations**

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Mineral Production	Mechanical Removal	20	Grant	An assessment of the application has been completed, and it has been determined that the proposal is not at variance to principles e, f, h and j. It is considered unlikely that the proposed clearing associated with this proposal is at variance to principles a, b, c, d and g.

The assessing officer therefore recommends that the permit be granted subject to the following conditions:

1. Any vehicle or machinery proposed to be used at the site that has been exposed to work outside established areas, shall be cleaned of potentially contaminated soil or plant matter prior to entering the area cross-hatched yellow on Plan 960/1.
2. In this permit, established areas may include but are not limited to:
  - a) pits;
  - b) haul roads;
  - c) routes;
  - d) waste dumps; or
  - e) stockpile areas.
3. For each instance of clearing done under this permit, the Permit Holder must record:
  - a) the co-ordinates of areas cleared using Geocentric Datum Australia 1994;
  - b) the size of the areas cleared in hectares; and
  - c) the dates on which the area was cleared.
4. The Permit Holder shall provide a report to the Director, Environment Division, of the Department of Industry and Resources by 1 March 2007 and each subsequent year for the life of this permit, setting out the records required under condition 3 of this permit in relation to the clearing activities.

## 5. References

- CALM (2006). Land clearing proposal advice. Advice to Program Manager, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR). Department of Conservation and Land Management, Western Australia.
- DAWA (2006). Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture 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.
- DoE (2005). Water allocation/licence advice. Department of Environment, Western Australia.
- Ecologia (1994). Golden Crown Open Pits Project: Notice of Intent - Fauna Assessment Survey. Prepared by Ecologia for Posgold Golden Crown Pty Ltd, May 1994.
- EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority.
- Harmony Gold Pty Ltd (2005). Yellow Taxi Open-Cut Extension - Notice Of Intent, November 2005.
- JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.
- Keighery, BJ (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Outback Ecology (2005). Flora Survey of the Proposed Yellow Taxi Ore Pad and Waste Landform Extension. Outback Ecology Services, Western Australia, November 2005.
- Poseidon Gold (Golden Crown) Pty Ltd (1994). Notice of Intent Yellow Taxi and Mt Fingall Project Areas. Report prepared for DoIR (then DME).
- PosGold (Golden Crown) Pty Ltd (1994). Golden Crowns Open Pits Project - Notice of Intent, May 1994.
- 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.

## 6 Glossary

<b>BoM</b>	Bureau of Meteorology, Australian Government.
<b>CALM</b>	Department of Conservation and Land Management, Western Australia.
<b>DAWA</b>	Department of Agriculture, Western Australia.
<b>DA</b>	Department of Agriculture, Western Australia.
<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>EP Act</b>	Environment Protection Act 1986, Western Australia.
<b>EPBC Act</b>	Environment Protection and Biodiversity 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.

