



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5202/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Big Bell Gold Operations Pty Ltd**

1.3. Property details

Property:
Mining Lease 20/17
Mining Lease 20/99
Mining Lease 20/192
Mining Lease 21/7
Mining Lease 21/14
Mining Lease 21/44
Mining Lease 21/65
Mining Lease 21/89
Miscellaneous Licence 20/21
Miscellaneous Licence 20/40
Local Government Area: Shire of Cue
Colloquial name: Central Murchison Gold Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 13 December 2012

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description Beard vegetation associations have been mapped for the whole of Western Australia and are useful to look at vegetation in a regional context. Eight Beard vegetation associations have been mapped within the application area (GIS Database):

- 18: Low woodland; mulga (*Acacia aneura*);
- 39: Shrublands; mulga scrub;
- 125: Bare areas; salt lakes;
- 240: Succulent steppe with open scrub; scattered *Acacia sclerosperma* and bowgada over saltbush and bluebush;
- 268: Succulent steppe with open scrub; scattered *Acacia sclerosperma* over saltbush and bluebush;
- 313: Succulent steppe with open scrub; scattered *Acacia sclerosperma* and *Acacia victoriae* over bluebush;
- 1127: Mosaic: Saltbush and bluebush/samphire; and
- 2081: Shrublands; bowgada and associated spp. scrub.

A Level 1 flora and vegetation survey of the Central Murchison Gold Project (which includes the application area) was undertaken by Outback Ecology Services (Outback Ecology) in 2012. The following 15 vegetation associations were recorded within the application area:

Big Bell Area

1. *Acacia aneura* Low Woodland over *Eremophila phyllopada* Open Shrubland over *Enneapogon caerulescens* Very Open Tussock Grassland on quartz outcrops;
2. *Acacia aneura* Low Open Woodland over *Ptilotus rotundifolius* Open Shrubland over *Ptilotus* spp. Low Open Shrubland over *Aristida contorta* Tussock Grassland;

3. *Acacia aneura* Low Open Woodland over Scattered Low Shrubs over *Aristida contorta* Tussock Grassland;
4. *Acacia aneura* Low Woodland (variable cover on banks of flow line) over *Acacia tetragonophylla* and *Eremophila* spp. Scattered Tall Shrubs/Shrubs over *Aristida contorta* and *Eragrostis falcata* (in bed of sandy flow line) Tussock Grassland;
5. Mixed *Acacia* Low Woodland over scattered Tall Shrubland (on flow line banks) over Open Tussock Grassland on sandy flow line channel;

Day Dawn Area

6. *Acacia cyperophylla* var. *cyperophylla* Tall Shrubland over *Eremophila longifolia* Open Shrubland over **Cenchrus ciliaris*, **Cynodon dactylon* Tussock Grassland in relatively well defined flow lines;
7. *Acacia aneura* Low Open Woodland over *Acacia tetragonophylla* Tall Open Shrubland over Herbland in poorly defined flow lines;
8. Mixed *Acacia* Tall Open Shrubland over *Eremophila phyllopoda* Open Shrubland – Shrubland over *Ptilotus obovatus* Low Open Shrubland over *Aristida contorta* Very Open Tussock Grassland on low basalt and dolerite rocky rises;
9. *Acacia xiphophylla*, *Acacia synchronicia* Tall Open Shrubland over mixed Scattered Low Shrubs over *Eriachne* and *Digitaria* Very Open Tussock Grassland. Found on broad drainage areas intersected by sometimes shallowly incised flow lines;
10. *Eremophila phyllopoda* Open Shrubland over *Tecticornia disarticulata* Low Open Shrubland over *Enneapogon caerulescens* and *Acacia contorta* Open Tussock Grassland on a water washed plain;
11. *Acacia aneura* Low Open Woodland over *Hibiscus sturtii* var. *grandiflorus* Low Open to Open Shrubland over *Eragrostis lanipes* Open Grassland. Found on red sand dunes;
12. *Eremophila eriocarpa* Shrubland over *Chenopodium gaudichaudianum* Low shrubland over *Aristida contorta* Open Tussock Grassland;
13. *Tecticornia halocnemoides* Open to Closed Heath over scattered *Dissocarpus paradoxus*. Found on deep saline clay flats with cracking surface;
14. *Tecticornia indica* subsp. *bidens* and *Tecticornia doleiformis* Low Open Heath over *Frankenia* sp. Scattered Low Shrubs; and
15. *Frankenia* spp. Scattered Low Shrubs.

Clearing Description	Big Bell Gold Operations Pty Ltd (Big Bell Gold) has applied to clear up to 50 hectares of native vegetation within an application area of approximately 427.5 hectares for the purposes of mineral production (GIS Database). The application area consists of the Day Dawn and Big Bell project areas located approximately four kilometres south-west and 25 kilometres north-west of Cue respectively (GIS Database). The project includes pit extensions, expanding waste landforms, dewatering pipelines and lay down areas (Outback Ecology, 2012a).
Vegetation Condition	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994); to Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).
Comment	The vegetation condition was assessed by botanists from Outback Ecology (2012b). The Cue area experienced uncharacteristically high rainfall in late 2010 and early 2011 (Outback Ecology, 2012a).

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 flora and vegetation survey undertaken by Outback Ecology (2012b) identified 15 vegetation associations within the application area. There are significant parts of the application area that have been disturbed by past mining and pastoral activities (Outback Ecology, 2012a). None of the vegetation associations within the application area were identified as being a Threatened or Priority Ecological Community (Outback Ecology, 2012b). Part of the dewatering pipeline from the Big Bell area passes through the buffer zone of the 'Lake Austin calcrete groundwater assemblage type on Murchison paleodrainage on Austin Downs Station' Priority Ecological Community (GIS Database). The proposed clearing will not impact on these groundwater assemblages.

The Level 1 flora survey of the greater Central Murchison Gold Project recorded a total of 151 flora species from 41 families and 91 genera (Outback Ecology, 2012b). None of these flora species were Threatened or

Priority Flora (Outback Ecology, 2012b). There were ten weed species recorded during the flora survey (Outback Ecology, 2012b). Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. This can in turn lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Apart from some minor areas of quartz outcrop and drainage lines, the fauna habitats within the application area are common and widespread within the Murchison bioregion (Outback Ecology, 2012a). Given the habitats present and the previous disturbance, the application area is not expected to contain a high level of faunal diversity.

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

Methodology Outback Ecology (2012a)
Outback Ecology (2012b)
GIS Database:
- Threatened Ecological Sites Buffered

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments Proposal may be at variance to this Principle

A Level 1 fauna survey was undertaken by Outback Ecology over the Central Murchison Gold Project in 2012. This survey includes the application area. The fauna survey identified five broad fauna habitats, four of which are present within the application area (Outback Ecology, 2012b):

- Acacia woodland over low heath
- Open stony plain (quartz)
- Drainage line
- Quartz outcrop

All four habitats are present within the Big Bell area and all but Acacia woodland over low heath are present at the Day Dawn area (Outback Ecology, 2012b). All of these habitat types had varying levels of disturbance from past grazing, pastoral and mining activities (Outback Ecology, 2012b). Along with these habitats there was a significant portion of the application area mapped as disturbed areas which are likely to have little habitat value for local fauna species. The quartz outcrop and drainage line habitats were identified as being significant fauna habitats (Outback Ecology, 2012b). The quartz outcrop habitat was found in small isolated areas and represents variation in the often flat and open landscape (Outback Ecology, 2012b). This habitat has the potential to provide refugia for small mammals and reptiles and also provide a vantage point for birds of prey. The quartz outcrop mapped at the Big Bell area is not within the application area, and there is only a small portion of this habitat within the application area at the Day Dawn location (Outback Ecology, 2012b: GIS Database). The drainage line habitat supports denser vegetation that provides shade and shelter as well as an ephemeral water source during substantial rainfall events (Outback Ecology, 2012b). The linear nature of drainage lines helps provide linkages and corridors between habitats in the local area (Outback Ecology, 2012b). The majority of the drainage line habitat mapped by the fauna survey is outside of the application area (GIS Database).

There are a number of conservation significant fauna species that have the potential to occur within the application area. The large majority of these species are mobile avian species including the Australian Bustard (*Ardeotis australis* - Priority 4) and White-browed Babbler (*Pomatostomus superciliosus ashbyi*) which were recorded during the fauna survey (Outback Ecology, 2012b). The application area is not expected to be significant habitat for these avian species given there is already large parts of the application area previously disturbed by mining and there are large areas of better quality habitat in the region. The threatened fauna species Malleefowl (*Leipoa ocellata*) and Western Spiny-tailed Skink (*Egernia stokesii badia*) are both possibly found within the application area. The Malleefowl may intermittently utilise the application area, however, it is not likely to remain in the area for prolonged periods of time as a history of mining and pastoralism has reduced the suitability of the habitat (Outback Ecology, 2012b). The Western Spiny-tailed Skink has been recorded within 20 kilometres of the application area (DEC, 2012). Isolated patches of Rocky outcrops and small stands of Acacia provide some marginal habitat within the application area (Outback Ecology, 2012b). Potential impacts to the Malleefowl and Western Spiny-tailed Skink may be minimised by the implementation of a fauna management condition.

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

Methodology DEC (2012)
Outback Ecology (2012b)
GIS Database:
- Cue 50cm Orthomosaic

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

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

According to available databases, there are no records of any Threatened Flora species within the application area (GIS Database). There were no Threatened Flora species recorded during the flora survey (Outback Ecology, 2012b).

There are records of the Threatened Flora species *Eremophila rostrata* subsp. *rostrata* and *Eremophila rostrata* subsp. *trifida* within ten kilometres of the Day Dawn project area (DEC, 2012). Both of these species tend to favour rocky outcrops and hills (Outback Ecology, 2012c). Only a small amount of quartz outcrop is present within the Day Dawn area. These topographic features were targeted during the flora survey (Outback Ecology, 2012c).

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

Methodology DEC (2012)
Outback Ecology (2012b)
Outback Ecology (2012c)
GIS Database:
- Threatened and Priority Flora

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

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

According to available databases, there are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). There were no vegetation communities recorded during the vegetation survey that were analogous with any TECs (Outback Ecology, 2012b).

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

Methodology Outback Ecology (2012b)
GIS Database:
- Threatened Ecological Sites Buffered

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments Proposal is not at variance to this Principle

The application area falls within the Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 99.7% of the pre-European vegetation remains (see table) (GIS Database, Government of Western Australia, 2011).

The vegetation of the application area has been mapped as Beard vegetation associations 18, 39, 125, 240, 268, 313, 1127 and 2081 (GIS Database). Over 90% of these Beard vegetation associations remains at both a state and bioregional level (Government of Western Australia, 2011). The vegetation within the application area itself is neither a remnant nor does it form part of any remnants within the local area (GIS Database).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Murchison	28,120,586	28,044,823	~99.7	Least Concern	1.05
Beard veg assoc. – State					
18	19,892,304	19,843,823	~99.7	Least Concern	2.13
39	6,613,569	6,602,580	~99.8	Least Concern	7.25
125	3,492,381	3,269,266	~93.6	Least Concern	7.2
240	119,107	119,107	~100	Least Concern	
268	15,547	15,547	~100	Least Concern	
313	68,843	65,261	~94.8	Least Concern	
1127	69,078	69,078	~100	Least Concern	
2081	1,331,683	1,320,826	~99.2	Least Concern	4.23
Beard veg assoc. – Bioregion					
18	12,403,172	12,363,252	~99.7	Least Concern	0.37
39	1,148,400	1,138,064	~99.1	Least Concern	0.02
125	711,483	710,255	~99.8	Least Concern	0.55
240	106,950	106,950	~100	Least Concern	
268	8,454	8,454	~100	Least Concern	
313	68,843	65,261	~94.8	Least Concern	
1127	69,078	69,078	~100	Least Concern	
2081	390,399	389,895	~99.9	Least Concern	0.31

* Government of Western Australia (2011)

** 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)
Government of Western Australia (2011)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- Cue 50cm Orthomosaic

(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 at variance to this Principle

There are several minor ephemeral drainage lines that pass through the application areas (GIS Database). A number of drainage lines in the Big Bell area have been realigned due to past mining activities (Outback Ecology, 2012a). The vegetation associations four and five were identified as being associated with drainage lines in the Big Bell area and vegetation associations six and nine were identified as being associated with drainage lines in the Day Dawn area (Outback Ecology, 2012a). There are also a number of drainage lines that are crossed by the Big Bell dewatering pipeline, however, this will be positioned within previously disturbed areas so there will be minimal impact to watercourses (Outback Ecology, 2012a). There is 1.45 hectares of vegetation proposed to be cleared for the Day Dawn dewatering pipeline, of which only 0.3 hectares is associated with a watercourse (Outback Ecology, 2012a).

The vegetation associated with drainage lines within the application areas cover a small percentage of the area. Given that the drainage lines in the Big Bell area have already been modified by previous mining activities, there is not likely to be significant additional impacts from the proposed clearing.

Both of the dewatering pipelines finish on the shore of Lake Austin (GIS Database). Given the size of Lake Austin, the proposed clearing will not have a significant impact on the fringing vegetation of the lake.

Based on the above, the proposed clearing is at variance to this Principle.

Methodology Outback Ecology (2012a)
GIS Database:
- Hydrography, Lakes (medium scale)
- Hydrography, linear

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

Comments Proposal may be at variance to this Principle

The application areas are mapped as occurring on the Austin, Carnegie, Challenge, Gabanintha, Mileura and Yanganoo land systems (GIS Database). The Austin land system is generally not susceptible to erosion, however, the removal of vegetation on drainage tracts can lead to increased erosion (Curry et al., 1994). The Carnegie land system is comprised mostly of lake beds and is generally not susceptible to erosion (Curry et al., 1994). Only a small part of the dewatering pipelines are located on the Carnegie land system. The Challenge land system is not normally susceptible to accelerated erosion except on alluvial footslopes and drainage tracts (Curry et al., 1994). Only a small portion of the Big Bell area is located on the Challenge land system. Both the Big Bell and Day Dawn project are located on the Gabanintha land system. This land system is generally not susceptible to erosion but has been widely scarred by past mining activities (Curry et al., 1994). Within the Mileura land system landform units with duplex soils are moderately to highly susceptible to erosion, those with loam over hardpan are less susceptible to erosion and calcrete platforms are not normally susceptible (Curry et al., 1994). The only part of the application area that is situated on the Mileura land system is part of the Big Bell dewatering pipeline. The pipeline is located on areas of previous disturbance so there will be minimal clearing of this land system. The hardpan plains of the Yanganoo land system are locally susceptible to accelerated erosion when severely degraded (Curry et al., 1994).

Some of the land systems present are susceptible to erosion in drainage tracts. The proposed clearing will not remove a large amount of vegetation from within drainage lines (Outback Ecology 2012a). Potential impacts of erosion may be minimised by the implementation of a staged clearing condition.

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

Methodology Curry et al. (1994)
Outback Ecology (2012a)
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

Part of the application area is located within the ex Lakeside Pastoral Lease which is managed by DEC (GIS Database). There is an approximate two kilometre stretch of the Big Bell dewatering pipeline that passes onto the ex Lakeside lease area as it discharges into Lake Austin. This represents approximately 2.5 hectares of the application area (GIS Database). The proposed clearing is not likely to have a significant impact on the environmental values of the ex Lakeside lease. Big Bell Gold should undertake measures to ensure that any clearing on the ex Lakeside lease does not lead to the introduction or increased spread of weeds within the area. Potential impacts from weeds may be minimised by the successful implementation of a weed management condition.

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

Methodology GIS Database:
- Clearing Instruments
- DEC Tenure

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

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

The application area is not located within a Public Drinking Water Source Area (GIS Database). The proposed clearing will not impact on any permanent water bodies, however, there are a number of ephemeral watercourses within the application area (GIS Database). Many of these watercourses flow into Lake Austin (GIS Database). The proposed clearing within these drainage lines may lead to short term increase in turbidity, however, it is not likely to result in the deterioration of surface water quality. Big Bell Gold plans to control turbidity through the use of settling basins which will intercept flows from mined areas and remove sediment before being discharged into the natural drainage lines (Outback Ecology, 2012a).

The groundwater in the local area has been recorded between 3,000 and 20,000 milligrams per litre of total dissolved solids (Rockwater, 2011 cited in Outback Ecology, 2012a). The proposed clearing is not likely to cause salinity levels within the application or surrounding areas to alter.

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

Methodology Outback Ecology (2012a)
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

With an average annual rainfall of 232.9 millimetres and an average annual evaporation rate of 3,400 millimetres there is likely to be little surface flow during normal seasonal rains (BoM, 2012; GIS Database). Whilst large rainfall events may result in the flooding of the area, the proposed clearing is not likely to lead to an increase in incidence or intensity of flooding.

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

Methodology BoM (2012)
GIS Database:
- Evaporation Isopleths

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

Comments

There are two native title claims over the area under application (GIS Database). These claims (WC04/10 and WC99/46) have been registered with the Native Title Tribunal on behalf of the claimant group (GIS Database). However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

According to available databases, there are no registered Aboriginal Sites of Significance within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment and Conservation and the Department of Water to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

The clearing permit application was advertised on 24 September 2012 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

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

4. References

- BoM (2012) Bureau of Meteorology Website - Climate statistics for Australian locations, Cue. Available online at: http://www.bom.gov.au/climate/averages/tables/cw_007017.shtml Accessed on 8 November 2012.
- Curry, P.J., Payne, A.L., Leighton, K.A., Hennig, P. and 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, Government of Western Australia, Perth, Western Australia.
- DEC (2012) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, viewed 19 November 2012, <<http://naturemap.dec.wa.gov.au>>.
- 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.
- Government of Western Australia (2011) 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Outback Ecology (2012a) Clearing Permit Application. Supporting information for clearing permit application CPS 5202/1, dated August 2012.
- Outback Ecology (2012b) Level 1 Vegetation, Flora and Fauna Assessment. Unpublished report dated July 2012.
- Outback Ecology (2012c) Response to request for additional information. Email from Outback Ecology received 29 November 2012.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DEC), Western Australia
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DoE	Department of Environment (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
EP Act	Environmental Protection Act 1986, Western Australia
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI Act	Rights in Water and Irrigation Act 1914, Western Australia
s.17	Section 17 of the Environment Protection Act 1986, Western Australia
TEC	Threatened Ecological Community

Definitions:

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

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

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

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

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

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

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

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