



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5432/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Kimberley Metals Group Pty Ltd**

1.3. Property details

Property: *Diamond (Argyle Diamond Mines Joint Venture) Agreement Act 1981*, Mining Lease 259SA (AM 70/259)
Local Government Area: Shire of Wyndham – East Kimberley
Colloquial name: Matsu Access Track

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.21		Mechanical Removal	Access Track

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 28 February 2013

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. One Beard vegetation association has been mapped within the application area (GIS Database):

Beard vegetation association 818: Hummock grasslands, low tree steppe; snappy gum over *Triodia inutillis* (Government of Western Australia, 2011; GIS Database).

A biological survey conducted by Animal Plant Mineral (APM) (2012) from 17 to 18 May 2012 identified three vegetation communities within the application area:

CDCC: *Corymbia dichromophloia* and *C. collina* open woodland over *Petalostigma quadriloculare*, *Erythrophleum chlorostachys*, *Gardenia resinosa* subsp. *resinosa* and *Grevillea heliosperm* over mixed open low woodland over *Triodia* aff. *bitextura* (*Cymbopogon ambiguus*) tussock grassland;

EB-w: *Eucalyptus brevifolia*, *E. confluens* (*Corymbia collina*) open woodland over *Erythrophleum chlorostachys* low woodland – to low open woodland over *Petalostigma quadriloculare*, *Grevillea dryandra* subsp. *dryandra* open Shrubland over *Grevillea miniata* (P4) open heath over *Triodia bitextura*, *Schizachirium fragile* and *Cymbopogon ambiguus* tussock grassland; and

CL: *Eucalyptus ordiana* (P2) scattered trees over *Triodia cremnophila* (P1) scattered tussock grass.

Clearing Description Kimberley Metals Group Pty Ltd (KMG) is proposing to clear up to 2.21 hectares of native for the purpose of an access track. The approximate length of the access track is 5.6 kilometres and the track will be approximately 4 metres in width.

Vegetation Condition The vegetation will be cleared using a bulldozer with a raised blade where possible.
Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994);

To:

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).

Comment The application area is located in the Purnululu subregion of Western Australia and is situated approximately 110 kilometres south-west of the Kununurra town site (GIS Database).

The vegetation condition was derived from a vegetation survey conducted by APM (2012).

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The application area occurs within the Purnululu sub-region of the Ord Victoria Plain Interim Biogeographic Regionalisation of Australia bioregion (GIS Database). This bioregion is characterised by level to gently undulating plains with scattered hills on Cambrian volcanic and Proterozoic sedimentary rocks; vertosols on plains and predominantly skeletal soils on hills. The dominant vegetation is grassland with scattered bloodwoods (*Eucalyptus* spp.) and snappy gum (*E. brevifolia*) with spinifex and annual grasses (CALM, 2002; KMG, 2013a).

APM (2012) conducted a biological survey over the application area and surrounding areas from 17 to 18 May 2012. A total of 141 native taxa from 98 genera belonging to 46 families were recorded within the survey area (APM, 2012). Flora taxa recorded within the application area were representative of flora taxa in the Purnululu subregion (APM, 2012). The condition of the vegetation was determined to be 'very good' to 'excellent' (Keighery, 1994). A search of the Department of Environment and Conservation's Threatened and Priority Flora databases revealed that no Threatened Flora species and one Priority Flora species may potentially occur within a 10 kilometre radius of the application area (DEC, 2013). APM (2012) identified no Threatened Flora and three Priority Flora species within the application area. The Priority Flora species *Jacquemontia* sp. Keep River (Priority 1) and *Eucalyptus ordiana* (Priority 2) are found within the CL vegetation community. These two species are locally widespread and their distribution continues north of the application area, occurring in stretches up to 14 kilometres in length (APM, 2012). KMG (2013b) state that only 0.64 hectares of the CL vegetation community will be disturbed. The species *Grevillea miniata* (Priority 4) forms scattered thickets throughout the EB-w vegetation community. *Grevillea miniata* is known to occur through several other locations in the local and regional area (Ecologia, 2005). The clearing of 2.21 hectares of native vegetation over 5.6 kilometres is not likely to impact the conservation significance of the above Priority Flora species.

The CL vegetation type includes plant assemblages definitive of the Priority Ecological Community "Plant assemblages on vertical sandstone surfaces" (Priority 1). However, the access track will not impact vertical sandstone surfaces. Only 0.64 hectares of the CL vegetation type will be impacted (KMG, 2013b). No Threatened Ecological Communities were recorded within the application area (GIS Database).

There were four weed species identified during the survey; Bush Passion Fruit (*Passiflora foetida*), Natal Grass (*Melinis repens*), Milk Weed (*Calotropis procera*) and Musk Melon (*Cucumis melo*) (APM, 2012). Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

There were two faunal habitat types identified within the application area (APM, 2012). These habitats are considered to be common and widespread within the subregion (APM, 2012). The clearing of 2.21 hectares of native vegetation over 5.6 kilometres is unlikely to have a significant impact in a regional and local context.

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

Methodology

APM (2012)
CALM (2002)
DEC (2013)
Ecologia (2005)
Keighery (1994)
KMG (2013a)
KMG (2013b)
GIS Database:
- IBRA WA (Regions - Subregions)
- Pre-European vegetation
- Threatened Ecological Sites Buffered

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

Comments

Proposal is not likely to be at variance to this Principle

APM (2012) conducted a biological survey of the application area during 17 and 18 May 2012 and identified two habitat types within the application area:

- Rocky outcrops; and
- Open *Eucalyptus/Corymbia* woodland with mixed tussock grasses, on rocky ridges.

Rocky outcrops are a common habitat throughout the survey area (APM, 2012). Species specifically confined to these areas are most likely reptiles such as *Varanus acanthurus* and *Morethia ruficauda* and mammal species such as the Short-eared Rock Wallaby (*Petrogale brachyotis*) and the common Rock Rat (*Zyromys argurus*) (APM, 2012). The Open *Eucalyptus/Corymbia* woodland with mixed tussock grasses, on rocky ridges

is the most common habitat and covers much of the proposed disturbance area. Species inhabiting these areas may also be those which are found in nearby rocky outcrops, cliffs or drainage lines (APM, 2012). Species which favour the open woodland include the Euro (*Macropus robustus*) and bird species such as the Weebill (*Smicrornis brevirostris*) (APM, 2012). APM (2012) identified the vegetation to be in 'very good' to 'excellent' condition (Keighery, 1994). The vegetation communities and associated fauna habitats are considered common and widespread in the local area (APM, 2012).

Fauna records from previous surveys within the local area were analysed by APM (2012) who compiled a list of taxa considered likely to occur in the application area based on habitat type (APM, 2012). One amphibian, 14 non-volant mammal taxa and nine bat taxa, 26 reptile taxa and 71 bird taxa are expected to occur with a high level of confidence (APM, 2012). APM (2012) conducted a targeted bird and Northern Quoll (*Dasyurus hallucatus*) (EPBC – Endangered) survey over the application area for six days during May 2012. There was no Northern Quoll recorded during the survey. APM (2012) recorded 44 bird taxa. The Rainbow Bee-eater was the only species of conservation significance recorded (APM, 2012).

Based on habitat type and previous fauna surveys in the local area, the following species of conservation significance listed as either threatened species under the *Environment Protection and Biodiversity Conservation Act* (EPBC) 1999 or protected under Western Australian legislation (*Wildlife Conservation Act 1950* (WC)) are likely to occur in the application area (APM, 2012; DEC, 2013):

- Fork-tailed swift (*Apus pacificus*) (Migratory);
- Bush Stone-curlew (*Burhinus grallarius*) (DEC – P4);
- Gouldian Finch (*Erythrura gouldiae*) (Migratory, EPBC – Endangered, WC – Schedule 1);
- Peregrine Falcon (*Falco peregrinus*) (WC – Schedule 4);
- Pictorella Mannikin (*Heteromunia pectoralis*) (DEC – P4); and
- Rainbow Bee-eater (*Merops ornatus*) (EPBC – Migratory).

The Peregrine Falcon uses steep cliffs for nesting and is likely to occur on the sandstone cliffs bordering the western edge of the application area. The Pictorella Mannikin, Rainbow Bee-eater, Bush Stone-curlew and the Fork-tailed Swift are considered highly mobile and have a wide distribution so the clearing is unlikely to significantly impact on these species. The small area of proposed clearing (2.21 hectares) is not likely to impact these species.

The Eucalypt and *Corymbia* woodland on stony slopes is typically regarded as significant breeding habitat for the Gouldian Finch (APM, 2012). However, the critical habitat resource that this species is specifically dependent on is mature hollow-bearing Eucalypt and *Corymbia* trees, the hollows of which the species uses for nesting (APM, 2012). It is unlikely such trees occur on the access tracks as all the vegetation that has regenerated along the historical track is too immature to bear hollows suitable for nesting. The low frequency of occurrence of these trees is such that the clearing of any large or semi-mature *Eucalyptus* and *Corymbia* trees can be avoided in most instances (KMG, 2013a). While the Gouldian Finch was not recorded within the application area, it has been recorded from adjacent ridges and a nearby mining camp (APM, 2012). KMG (2013a) will avoid the removal of large trees during the clearing of the road where possible. KMG (2013b) have stated that only 0.26 hectares of the CL vegetation type where the *Eucalyptus* trees may be recorded will be impacted. The proposed clearing is not likely to impact the breeding habitat of the Gouldian Finch.

The small scale (2.21 hectares) and low impact nature of the proposed clearing of native vegetation is not likely to impact critical feeding or breeding habitat for any conservation significant fauna species.

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

Methodology APM (2012)
DEC (2013)
Keighery (1994)
KMG (2013a)
KMG (2013b)

(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 Threatened Flora within the application area (GIS Database). A search of the Department of Environment and Conservation's Threatened and Priority Flora databases identified no Threatened Flora species as occurring within a 10 kilometre radius of the application area (DEC, 2013).

APM (2012) conducted a biological survey of the application area from 17 to 18 May 2012. No Threatened Flora was recorded within the survey area.

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

Methodology APM (2012)
 DEC (2013)
 GIS Database:
 - Threatened 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

A search of the available databases showed that there are no known Threatened Ecological Communities recorded within 100 kilometres of the application area (GIS Database).

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

Methodology GIS Database:
 - 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 Ord Victoria Plain IBRA bioregion (GIS Database). The vegetation within the application area is recorded as:

Beard vegetation association 818: Hummock grasslands, low tree steppe; snappy gum over *Triodia inutulis* (Government of Western Australia, 2011; GIS Database).

Beard vegetation association 818 retains approximately 99% of its pre-European extent within the bioregion (Government of Western Australia, 2011). The area proposed to be cleared is not a significant remnant of native vegetation.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Ord Victoria Plain	5,497,882	5,493,145	~99.91	Least Concern	-
Beard vegetation associations - State					
818	33,260	32,969	~99.13	Least Concern	-
Beard vegetation associations - Bioregion					
818	33,174	32,883	~99.12	Least Concern	-

* 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 - subregions)
 - Pre-European Vegetation

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

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

According to available databases, there are no watercourses or wetlands within the application area (GIS Database). The vegetation within the application area is not considered to be growing in association with any watercourse or wetland.

The application area is along a relatively flat surface on the ridge avoiding any major drainage channels. Any impact on some of the shallow ephemeral drainages will be minimal and no drainage paths will be modified or blocked (KMG, 2013a).

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

Methodology KMG (2013a)
GIS Database:
- Geodata, Lakes
- 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 application area is within the Wickham land system (GIS Database).

The Wickham land system is described as rugged stony country formed on sedimentary rocks widespread in the southern half of the Ord-Victoria survey area. The hills, ranges and plateaux are dominated by eucalypt woodlands and spinifex. The system is generally resistant to erosion (Payne & Schoknecht, 1994).

No significant land degradation is likely to occur in response to this proposal as the area of land clearing required is small and the surface soils exhibit optimal physical and chemical properties, and therefore structurally stable and non-dispersive. The high gravel content of the surface soils and the presence of substantial rock armouring will protect the soil surface from erosion and no significant sediment loss is expected as the flow velocity of any overland flow is not expected to exceed the detachment shear strength of the gravelly surface soils (KMG, 2013a).

The clearing takes place in the highly weathered zone and consequently no Potential Acid Forming materials are likely to occur given its geology and redoximorphsetting (KMG, 2013a).

The removal of 2.21 hectares of native vegetation within a seven hectare application area is unlikely to result in water-logging, acidification, salinisation or deep subsoil compaction, and significant erosion was not observed within the application area despite localised clearing.

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

Methodology KMG (2013a)
Payne & Schoknecht (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

The application area is not located within any conservation area (GIS Database). The nearest conservation area is Purnululu Conservation Reserve, located approximately 57 kilometres south of the application area (GIS Database).

Given the distance of the application area from Purnululu Conservation Reserve, the proposed clearing is not likely to provide a significant ecological linkage or fauna movement corridor and is not likely to impact the environmental values of the conservation area.

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

Methodology GIS Database:
- DEC Tenure

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

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

The application area is not located within a Public Drinking Water Source Area (GIS Database). The application areas are located within the proclaimed Canning-Kimberley groundwater area under the *Rights in Water and Irrigation Act 1914* (GIS Database). Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water.

There are no permanent watercourses or water bodies within the application area (GIS Database). Several ephemeral drainage tracts transect the application area (GIS Database). These drainage tracts are dry for most of the year and only flow and hold surface water for short durations following significant rainfall events (KMG, 2013a; GIS Database).

The application has a groundwater salinity that is potable to fresh (500 ? 1,000 milligrams/Litre Total Dissolved

Solids) (GIS Database). The clearing of 2.21 hectares of native vegetation over an area of 5.6 kilometres is unlikely to result in deterioration in surface or groundwater quality in the local area.

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

Methodology KMG (2013a)
GIS Database:
- Geodata, Lakes
- Groundwater Salinity, Statewide
- Hydrography, Linear
- Public Drinking Water Source Areas
- RIWI Act, Groundwater Areas

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

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

The application area experiences an dry hot tropical, semi-arid climate with summer rainfall with an annual average of approximately 780.1 millimetres per year (CALM, 2002; BoM, 2013). Based on an average annual evaporation rate of 3,200 - 3,800 millimetres (BoM, 2013), any surface water resulting from rainfall events is likely to be relatively short lived.

Given the size of the area to be cleared (2.21 hectares) compared to the size of the Ord River catchment area (4,526,028 hectares) (GIS Database) it is not likely that the proposed clearing will lead to an appreciable increase in run off, and subsequently cause or exacerbate the incidence or intensity of flooding.

The access track is located on the top of the ridge and potentially impacting only minor ephemeral drainage channels of the catchment. Therefore, there is no potential for land clearing to significantly increase surface water runoff and subsequent flooding of low-lying areas (KMG, 2013a).

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

Methodology KMG (2013a)
BoM (2013)
CALM (2002)
GIS Database:
- Hydrographic Catchments ? Catchments

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

Comments

There are no Native Title claims over the area under application. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There is one registered Aboriginal Site of Significance within the application area (Site ID: 13749) (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 28 January 2013 by the Department of Mines and Petroleum inviting submissions from the public. One submission was received in relation to this application regarding Aboriginal heritage issues, and these concerns were passed on to the applicant.

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

4. References

- Animal Plant Mineral (APM) (2012) Biological Survey - Access Track transecting Lease M 259SA, East Kimberly, Western Australia. Prepared by Kimberley Metals Group Ltd with the assistance of Animal Plant Mineral Pty Ltd, May 2012.
- BoM (2013) Climate Statistics for Australian Locations. A Search for Climate Statistics for Argyle Aerodrome, Australian Government Bureau of Meteorology, viewed 13 February 2013, <http://reg.bom.gov.au/climate/averages/tables/cw_002064.shtml>.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Ord Victoria Plains 1 (OVP1 - Ord subregion) Department of Conservation and Land Management, Western Australia.
- DEC (2013) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, viewed 13 February 2013, <<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.
- Ecologia (2005) Argyle Iron Ore Project. Flora and fauna survey undertaken for Resource Mining Corporation (RMC). Internal Document.
- 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.
- Kimberley Metals Group (KMG) (2013a) Application for a clearing permit (purpose permit) for a historical access track transecting the M 259SA tenement. Kimberley, Western Australia, January 2013.
- Kimberley Metals Group (KMG) (2013b) Additional information via email regarding PEC impact to Assessing officer, Internal document, February 2013.
- Payne, A., & Schoknecht, N (1994) An inventory and condition survey of land systems of the Kimberley Region, Western Australia, Technical Bulletin No. 98., Department of Agriculture, South Perth, Western Australia.

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.

