Government of **Western Australia**
Department of **Mines and Petroleum**

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3143/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **St Ives Gold Mining Company Pty Limited**

1.3. Property details

Property: Mining Lease 15/475
Mining Lease 15/476
Mining Lease 15/1560
Mining Lease 15/1561
Mining Lease 15/1595
Mining Lease 15/1596
Mining Lease 15/1638
Mining Lease 15/1639
Mining Lease 15/1652
Mining Lease 15/1710
Miscellaneous Licence 15/145
Local Government Area: Shire Of Coolgardie
Colloquial name: Athena Complex Mining Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
220		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
Vegetation within the application area has been mapped at a 1:250,000 scale as Beard Vegetation Associations (Shepherd et al., 2007; GIS Database):

9: Medium woodland; coral gum (*Eucalyptus torquata*) & Goldfields blackbutt (*Eucalyptus lesouefii*); and

936: Medium woodland; salmongum.

Botanica consulting undertook a flora and vegetation survey over the application area in September and October 2008. The following five vegetation communities were recorded within the application area (Keith Lindbeck and Associates, 2009):

1. *Eucalyptus* woodland over *Cratystylis conocephala*;

2. *Eucalyptus* woodland over *Triodia irritans*;

3. *Eucalyptus salmonophloia* open woodland over *Maireana sedifolia*;

4. *Eucalyptus salicola* over *Triodia irritans*; and

5. Rehabilitated tip area.

Clearing Description
St Ives Gold Mining Company has applied to clear up to 220 hectares within an application area of approximately 653 hectares for the purpose of constructing mine infrastructure. This includes the construction of three open pits, two underground mines, two run of mine pads, two waste dumps and associated infrastructure (Keith Lindbeck and Associates, 2009). Clearing will be by mechanical means.

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

to

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).

Comment
The clearing application area is located approximately 23 kilometres south-east of Kambalda (GIS Database).

The vegetation condition was assessed by botanists from Botanica Consulting.

Two weed species have been recorded within the application area (Keith Lindbeck and Associates, 2009).

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 is located within the Eastern Goldfields subregion of the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). At a broad scale, vegetation can be described as Mallees, Acacia thickets and shrub-heaths on sandplains with diverse Eucalyptus woodlands occurring around salt lakes, on ranges and in valleys (CALM, 2002).

Eucalyptus woodlands have been identified as having a high species and ecosystem diversity within the Eastern Goldfields bioregion (CALM, 2002). Several of the vegetation communities within the application area have been identified as Eucalyptus woodland.

A flora and vegetation survey was undertaken within the application area by Botanica Consulting in September and October 2008. This survey identified five different vegetation communities within the application area (Keith Lindbeck and Associates, 2009). The condition of these vegetation types varied from small pockets of vegetation classed as 'excellent' to a small area classed as 'good' (Keith Lindbeck and Associates, 2009). The majority of the vegetation within the application area was classed as 'very good' (Keith Lindbeck and Associates, 2009). It has been noted that the application area has been impacted by historical grazing, mining activity and recent exploration activities (Keith Lindbeck and Associates, 2009).

The flora survey of the application area recorded 90 species from 43 genera and 24 families (Keith Lindbeck and Associates, 2009). The flora survey revealed the application area to be diverse in flora species, however, these species were not restricted to the application area and occurred throughout the region (Keith Lindbeck and Associates, 2009). There were two weed species recorded within the application area; Ice Plant (*Mesembryanthemum crystallinum*) and *Oncosiphon suffruticosum* (Keith Lindbeck and Associates, 2009). The presence of these introduced weed species lowers the biodiversity value of the area proposed to be cleared. Should a permit be granted, it is recommended that a condition be imposed for the purpose of weed management.

A search by the assessing officer of the Department of Environment and Conservation's (DEC's) Naturemap database identified 6 mammals and 19 reptiles that have been previously recorded within a 25 kilometre radius of the application area (DEC, 2009). A search of the Western Australian Museum database by Keith Lindbeck and Associates (2009) revealed 1 amphibian, 52 reptiles, 3 mammals and 7 bird species previously recorded within the application and surrounding area. From this information the local area does not support high numbers of mammals and birds, however, it appears to be diverse in reptiles species.

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

Methodology

CALM (2002)
DEC (2009)
Keith Lindbeck and Associates (2009)
GIS Database
- Interim Biogeographic Regionalisation of Australia (subregions)

(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 level 1 fauna survey was carried out over the area by Keith Lindbeck and Associates. This survey was conducted in accordance with the Environmental Protection Authority (EPA) Position Statement No. 3 and Guidance Statement 56: 'Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia' (EPA 2002; 2004). This survey identified three broad habitat types within the application area (Keith Lindbeck and Associates, 2009):

1. Eucalypt woodland over spinifex;
2. Eucalypt woodland over shrubs; and
3. Melaleuca thicket.

Large tracts of similar, yet undisturbed habitat are present within the local and regional area (Keith Lindbeck and Associates, 2009). The survey did not identify any significant fauna habitat features (e.g. caves, tree hollows, wetlands) within the application area.

Based on previous records and known habitat distributions there are 20 fauna species of conservation significance that have the potential to occur within the application area (Keith Lindbeck and Associates, 2009). Of these only two species; Malleefowl (*Leipoa ocellata*) and the Rainbow Bee-eater (*Merops ornatus*) were identified as likely to utilise the area (Keith Lindbeck and Associates, 2009).

No Malleefowl (Schedule 1 - fauna that is rare or likely to become extinct, *Wildlife Conservation (Specially Protected Fauna) Notice, 2008* and Vulnerable under the *EPBC Act 1999*) mounds or tracks were identified during the fauna survey (Keith Lindbeck and Associates, 2009). According to DEC's Naturemap database there has been at least five recorded sightings of Malleefowl within 100 kilometres of the application area

(DEC, 2009). Keith Lindbeck and Associates (2009) recommend a targeted Malleefowl search be conducted prior to disturbance. Should a permit be granted, it is recommended a condition be imposed for Malleefowl management.

The Rainbow Bee-eater (*Merops ornatus*) is listed as a migratory bird by the Japan-Australia Migratory Bird Agreement (JAMBA) and is protected under the *EPBC Act 1999*. The Rainbow Bee-eater is found across most of Australia and inhabits open forests and woodlands, shrublands and various cleared or semi-cleared habitats (DEWHA, 2009). This species has not been reported near the application area, however, it would not be unexpected for it to use the application area in its migratory path. Given this birds migratory habits and that there has been no recorded sightings in the local area, the proposed clearing area is not likely to represent significant habitat for the Rainbow Bee-eater.

Given there are no significant habitat features within the application area and the habitat present is not regionally uncommon, the proposed clearing is not likely to represent significant habitat for indigenous fauna.

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

Methodology
DEC (2009)
DEWHA (2009)
EPA (2002)
EPA (2004)
Keith Lindbeck and Associates (2009)

(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 recorded Declared Rare Flora (DRF) or Priority Flora species within the application area (GIS Database). Botanica Consulting conducted a flora survey over the application area during September and October 2008. No DRF or Priority Flora was recorded within the application area (Botanica Consulting, 2008).

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

Methodology
Botanica Consulting (2008)
GIS Database
- Declared Rare and Priority Flora List

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

Comments

Proposal is not likely to be at variance to this Principle

According to available databases, there are no known Threatened Ecological Communities (TEC's) within the application area (GIS Database). No vegetation communities described as a TEC were recorded during the botanical survey of the application area (Keith Lindbeck and Associates, 2009). The nearest known TEC is located approximately 265 kilometres south-east of the application area (GIS Database).

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

Methodology
Keith Lindbeck and Associates (2009)
GIS Database
- Threatened Ecological Communities

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

Comments

Proposal is not at variance to this Principle

The application area falls within the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion within which approximately 98.4% of the Pre-European vegetation remains (see table) (GIS Database; Shepherd et al., 2007).

The vegetation of the application area has been mapped as (Shepherd et al., 2007);

- Beard Vegetation Association 9: Medium Woodland
- Beard Vegetation Association 936: Medium Woodland; salmongum.

According to Shepherd et al. (2007) approximately 99.7% of Beard Vegetation Association 9 remains at both a state and bioregional level. Beard Vegetation Association 936 has approximately 96.7% at a state level and 100% at a bioregional level remaining (Shepherd et al., 2007). Therefore, the area proposed does not represent a significant remnant of native vegetation within an area that has been extensively cleared.

While a small percentage of the vegetation types within the Coolgardie bioregion are adequately protected

within conservation reserves, the bioregion remains largely uncleared. As a result, the conservation of vegetation associations within the bioregion is not likely to be impacted by this proposal.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-european % in IUCN Class I-IV Reserves (and post clearing %)*
IBRA Bioregion – Coolgardie	12,912,208	12,707,623	~98.4	Least Concern	9.7 (9.9)
Beard veg assoc. – State					
9	240,509	239,898	~99.7	Least Concern	1.3 (1.3)
936	698,753	675,658	~96.7	Least Concern	2.1 (2.1)
Beard veg assoc. – Bioregion					
9	240,442	239,835	~99.7	Least Concern	1.3 (1.3)
936	7,047	7,047	~100	Least Concern	1.2 (1.2)

* Shepherd et al. (2007)
** Department of Natural Resources and Environment (2002)

Options to select from: Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment 2002)

Presumed extinct	Probably no longer present in the bioregion
Endangered+	<10% of pre-European extent remains
Vulnerable+	10-30% of pre-European extent exists
Depleted+	>30% and up to 50% of pre-European extent exists
Least concern+	>50% pre-European extent exists and subject to little or no degradation over a majority of this area

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

Methodology Department of Natural Resources and Environment (2002)
Shepherd et al. (2007)
GIS Database
- Interim Biogeographic Regionalisation of Australia
- Pre-European Vegetation

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

Comments **Proposal is not likely to be at variance to this Principle**
According to available databases there are no watercourses or wetlands within the application area (GIS Database). The vegetation proposed to be cleared is not associated with any watercourses, wetlands or wetland dependent vegetation (Keith Lindbeck and Associates, 2009). The nearest waterbodies are two non-perennial lakes located within approximately 100 metres of the application area (GIS Database). Botanica Consulting identified the vegetation associated with these waterbodies as '*Melaleuca* thicket surrounding clay pan' (Keith Lindbeck and Associates, 2009). The proposed clearing is not likely to impact on these waterbodies or the vegetation associated with them. Lake Lefroy is located approximately 2 kilometres west of the application area (GIS Database).

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

Methodology Keith Lindbeck and Associates (2009)
GIS Database
- Hydrography, linear

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

Comments **Proposal is not likely to be at variance to this Principle**
The application area is located within the Kambalda Soil-Landscape Zone (Tille, 2006). This zone is characterised by flat to undulating plains (with hills, ranges and some salt lakes and stony plains) on greenstone and granitic rocks of the Yilgarn Craton (Tille, 2006).

The application area has been identified as being comprised of the Lakeland Land System (Keith Lindbeck and Associates, 2009). Four land units from this system have been identified within the application area (Keith

Lindbeck and Associates, 2009):

1. Sandy sheets – level to gently undulating plains;
2. Dunes – ill defined linear sandy rises, crests and dunes up to 8 metres above the sandy sheets, becoming more distinct near margins with adjacent salt lake systems;
3. Loamy plains – level to very gently inclined plains slightly lower than sandy sheets; and
4. Claypans – level pans and drainage foci usually circular or oval and up to 2 kilometres in extent.

The erosion hazard of the soils within these land units ranges from low to moderate (Keith Lindbeck and Associates, 2009).

The pH of the surface soil within the application area is 5.5 – 6.5 and there has been no known occurrence of acid sulphate soils (CSIRO, 2009). However, an adjacent clay pan area identified by Botanica Consulting as being the '*Melaleuca* thicket surrounding clay pan' vegetation type has a high probability of acid sulphate soil occurrence (Botanica Consulting, 2008; CSIRO, 2009). This vegetation type is not present within the application area so the risk of acid sulphate soils is minimal.

The application area has an annual average evaporation rate of approximately 9 times the annual average rainfall (BoM, 2009; GIS Database). Based on this information, recharge to groundwater would be minimal, thereby reducing the likelihood of salinity increasing as a result of the proposed clearing. A groundwater exploration survey recorded no occurrence of groundwater, so the risk of saline groundwater rising as a result of clearing would be considered minimal (Keith Lindbeck and Associates, 2009).

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

Methodology
BoM (2009)
Botanica Consulting (2008)
CSIRO (2009)
Keith Lindbeck and Associates (2009)
Tille (2006)
GIS Database
- Evaporation Isopleths

(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

According to available databases, the application area is not located within a conservation area or DEC managed land (GIS Database). The nearest known conservation area is the Kambalda Timber Reserve located approximately 20 kilometres north-west of the application area (GIS Database). Based on the distance between the application area and the timber reserve, the proposed clearing is not likely to impact on the environmental values of any conservation reserve.

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

Methodology
GIS Database
- CALM Managed Lands and Waters

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

Comments

Proposal is not likely to be at variance to this Principle

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

Groundwater within the application area is hypersaline with average salinity ranging from 150,000 – 400,000 milligrams per Litre Total Dissolved Solids (TDS) (Keith Lindbeck and Associates, 2009). Given the groundwater is already hypersaline, any clearing within the application area is not likely to alter the existing groundwater quality.

There are no permanent or ephemeral waterbodies located within the application area (GIS Database; Keith Lindbeck and Associates, 2009). Given there is a low average annual rainfall in the greater Kalgoorlie area (265 millimetres) (BoM, 2009) and there are no watercourses within the application area, the proposed clearing is not likely to cause sedimentation or deteriorate the quality of surface water in nearby areas.

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

Methodology
BoM (2009)
Keith Lindbeck and Associates (2009)
GIS Database
- Groundwater Salinity

- Public Drinking Water Source Areas (PDWSA's)
- Hydrography, linear

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

Comments

Proposal is not likely to be at variance to this Principle

The application area is located in the semi-arid climatic region of the Goldfields characterised by cool winters and hot, dry summers (Keith Lindbeck and Associates, 2009). The application area receives an average annual rainfall of approximately 265 millimetres (BoM, 2009). Based on an average annual evaporation rate of 2400 – 2600 millimetres (GIS Database), any surface water resulting from rainfall events is likely to be relatively short lived.

There are no watercourses or wetlands within the application area (GIS Database). The application area does not lie within a floodplain and the proposed clearing is not likely to impact surface runoff and drainage in the local area (Keith Lindbeck and Associates, 2009).

The application area is within the Lake Lefroy catchment area which covers 2,488,250 hectares (GIS Database). Given the size of the area to be cleared (220 hectares) in relation to the size of the catchment area, the proposed clearing is not likely to increase the incidence or intensity of flooding.

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

Methodology

BoM (2009)
Keith Lindbeck and Associates (2009)
GIS Database
- Evaporation Isopleths
- Hydrographic Catchments - catchments
- Hydrography, linear
- Rainfall, Mean Annual

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

Comments

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

There are two native title claims over the area under application; WC98/027 and WC99/027 (GIS Database). These claims have been registered with the National Native Title Tribunal. However, the mining tenements have been granted in accordance with the futures 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 Aboriginal Sites of Significance within the application area (GIS Database). it is the proponents' responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged throughout the clearing process.

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

Methodology

GIS Database
- Aboriginal Sites of Significance
- Native Title Claims

4. Assessor's comments

Comment

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

Should the permit be granted it is recommended that conditions be imposed for the purposes of weed management, fauna management, retention of vegetative material and topsoil, staged clearing, record keeping and permit reporting.

5. References

Botannica Consulting (2008) Flora Survey of St Ives Gold Mine AAA project. Unpublished report for St Ives Gold Mining Company, Western Australia.

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Commonwealth Scientific and Industrial Research Organisation (2009) Australian Soil Resource Information System. Available online at: http://www.asris.csiro.au/index_ie.html Accessed on 10 July, 2009.

DEC (2009) NatureMap - Department of Environment and Conservation and Western Australian Museum. http://naturemap.dec.wa.gov.au/default.aspx (Accessed 9 July 2009)

Department of Conservation and Land Management (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions.

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EPA (2002) Terrestrial Biological Surveys as an element of biodiversity protection. Position Statement No. 3. March 2002. Environmental Protection Authority, Western Australia.

EPA (2004) Guidance for the Assessment of Environmental Factors: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia. Guidance Statement No 56. Environmental Protection Authority, Western Australia.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Keith Lindbeck and Associates (2009) Athena Complex Mining Project: Supporting Documentation for Clearing Permit Application. Unpublished report for St Ives Gold Mining Company, Western Australia.

Shepherd, D.P. (2007) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.

Tille. P. (2006) Soil-landscapes of Western Australia's Rangelands and Arid Interior. Technical Report 313. Department of Agriculture and Food, Western Australia. ISSN 1039-7205.

6. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEC	Department of Environment and Conservation
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DoE), 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, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
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	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	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.