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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3314/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **BGC Contracting Pty Ltd**

1.3. Property details

Property: Mining Leases 45/109; 45/675
Local Government Area: Town of Port Hedland
Colloquial name: Turner River Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.5		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

Beard Vegetation Associations have been mapped at a 1:250,000 scale for the whole of Western Australia and are useful to look at vegetation extent in a regional context. One Beard Vegetation Association is located within the application area (GIS Database):

Beard Vegetation Association 589: Mosaic: Short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex (Shepherd, 2007).

Astron Environmental Services (2009) undertook a flora and vegetation survey of the mining tenements associated with the proposed Turner River Project area on 29 June 2009. Information was collected from 15 unbounded relevé sites. A total of 53 vascular taxa from 19 families were recorded from the mining tenements. Thirteen vegetation types were described from six different landforms. As the survey extended beyond the permit application area, only five vegetation types from three landforms are contained within the application area. These have been listed below:

Landform: Sandy Levees and Sand Sheets (Rsl)

Rsl4:

Acacia trachycarpa and *Acacia colei* open shrubland over mixed *Triodia epactia*, *Chrysopogon fallax* and **Cenchrus ciliaris* grassland.

Landform: Minor and Major Channels (Rmc)

Rmc2:

Melaleuca argentea scattered low woodland over *Acacia trachycarpa* and *Crotalaria cunninghamii* scattered to open shrubs over *Cajanus pubescens* open low shrubland.

Rmc3:

Acacia ampliceps open to tall shrubland over *Sporobolus virginicus* open to closed tussock grassland.

Rmc4:

Acacia trachycarpa tall shrubland to open heath with *Acacia ampliceps* over mixed *Triodia* spp., *Chrysopogon fallax* and **Cenchrus ciliaris* open grassland.

Landform: Low Rises (Uir)

Uir1:

Triodia epactia hummock grassland.

Clearing Description

BGC Contracting Pty Ltd (hereafter referred to as BGC Contracting) (2009) have applied for a purpose permit to clear up to 1.5 hecatres of native vegetation within an application area of approximately 2.98 hectares. The proposed clearing would allow the proponent to conduct sand mining in the Turner River, and associated works (BGC Contracting, 2009). Mining of the riverbed for sand will occur while the riverbed is dry and work will cease when the Turver River is flowing; as such, mining will occur in campaigns over a five year period (BGC Contracting, 2009).

Vegetation clearing will be undertaken using mechanical means (BGC Contracting, 2009).

Vegetation Condition Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate;

to

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

Comment The vegetation condition rating is derived from information provided by Astron Environmental Services (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 Roebourne subregion of the Pilbara Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Roebourne subregion is characterised by quaternary alluvial and older colluvial coastal and subcoastal plains with a grass savannah of mixed bunch and hummock grasses, and dwarf shrub steppe of *Acacia stellaticeps* or *A. pyrifolia* and *A. inaequilatera* (CALM, 2002). Uplands are dominated by *Triodia* hummock grasslands (CALM, 2002). Ephemeral drainage lines support *Eucalyptus victrix* or *Corymbia hamersleyana* woodlands (CALM, 2002).

Astron Environmental Services (2009) undertook a flora and vegetation survey of 15 unbounded relevé sites in June 2009 and a desktop fauna assessment of the mining tenements associated with the Turner River Project. A total of 53 vascular taxa from 19 families were recorded from the mining tenements, none of which were Declared Rare Flora (DRF) or Priority Flora (Astron Environmental Services, 2009). A total of six amphibian, 63 reptile, 157 bird (including 22 migratory) and 29 mammal (including five introduced) species could potentially be present within the application area (Astron Environmental Services, 2009). Five vegetation types from three different landforms were identified within the application area, and the vegetation condition of all vegetation types were described as ranging from 'Good' to 'Excellent' condition (Astron Environmental Services, 2009).

The Pilbara IBRA bioregion is relatively rich floristically, with 1,591 endemic taxa and 90 introduced taxa (Astron Environmental Services, 2009). The number and types of endemic flora taxa recorded within the application area are relatively typical of the Pilbara IBRA bioregion and do not indicate a particularly high level of biological diversity (Astron Environmental Services, 2009). Additionally, the majority of the fauna species that were identified as potentially being present within the mining tenements tend to have widespread habitat throughout the Pilbara IBRA bioregion and therefore have a widespread distribution (Astron Environmental Services, 2009). Overall, it is unlikely that the application area comprises of a higher level of biological diversity than the surrounding areas.

Three introduced flora taxa were discovered within the application area; these were *Cenchrus ciliaris* (Buffel Grass), *Aerva javanica* (Kapok Bush) and *Passiflora foetida* (Stinking Passion Flower) (Astron Environmental Services, 2009). In order to minimise the spread of weed species and the risk of introducing additional weed species into the application areas, it is recommended that, should the permit be granted, a condition be imposed on the permit for the purpose of weed management.

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

Methodology

Astron Environmental Services (2009).
CALM (2002).
GIS Database:
- Interim Biogeographic Regionalisation for Australia.
- Interim Biogeographic Regionalisation for 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

Astron Environmental Services (2009) conducted a desktop fauna survey of the mining tenements associated with the application area and six species of amphibian, 63 species of reptile, 157 species of bird (including 22 migratory species) and 29 species of mammal species (including five introduced species) could potentially be present within the application area (Astron Environmental Services, 2009). This included one species of conservation significant reptile, five species of conservation significant birds and three species of conservation significant mammals (Astron Environmental Services, 2009).

Although a field assessment of the fauna habitats present within the mining tenements containing the application area was not conducted, Astron Environmental Services (2009) reported that the application area is expected to support an intact fauna assemblage typical of the Pilbara IBRA bioregion. Additionally, habitat containing drainage lines would be likely to support a wider diversity of fauna as drainage lines tend to be more densely vegetated (Astron Environmental Services, 2009). Given that the fauna habitats were deemed to be

widespread throughout the Pilbara IBRA bioregion (Astron Environmental Services, 2009) and that the proposed disturbance is small, it is unlikely that the proposed clearing would disturb the whole or a part of a significant habitat for fauna indigenous to Western Australia.

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

Methodology Astron Environmental Services (2009).

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

Comments

Proposal not likely to be at variance to this Principle

Astron Environmental Services (2009) surveyed the application area and did not record the occurrence of any Declared Rare Flora (DRF) or Priority Flora species. No records of DRF species were identified within the application area using the GIS Database. The closest location of a DRF species, *Lepidium catapycnon*, is situated approximately 213 kilometres south of the application area (GIS Database).

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

Methodology Astron Environmental Services (2009).
GIS Database:
- Declared Rare and Priority Flora List.

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

Comments

Proposal is not likely to be at variance to this Principle

There are no records of Threatened Ecological Communities (TECs) within the application area (GIS Database). The closest TEC is the *Themeda* grasslands on cracking clays (Hamersley Station) located approximately 225 kilometres south of the application area (GIS Database). The proposed clearing is not likely to impact on any known TEC.

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

Methodology GIS Database:
- Threatened Ecological Communities.

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

Comments

Proposal is not at variance to this Principle

The application area falls within the Pilbara IBRA bioregion in which approximately 100% of the pre-European vegetation remains (Shepherd, 2007; GIS Database).

The vegetation within the application area is classified as:

- **Beard Vegetation Association 589:** Mosaic: Short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex (Shepherd, 2007; GIS Database).

As depicted within the table below, the application area does not represent a significant remnant of vegetation in an area that has been extensively cleared (Shepherd, 2007). The proposed clearing will not reduce the extent of Beard Vegetation Association 589 below the recognised threshold level, below which species loss accelerates exponentially at an ecosystem level (EPA, 2000). Therefore, the bioregional conservation status for the Pilbara IBRA bioregion and for the Beard Vegetation Association 589 is of 'Least Concern' (Department of Natural Resources and Environment, 2002).

While a relatively small percentage of the vegetation types within the Pilbara IBRA bioregion are protected within conservation reserves, the bioregion remains largely uncleared. The proposed clearing is unlikely to impact on the conservation status for Beard Vegetation Association 589 within the Pilbara IBRA bioregion.

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

	Pre-European area (hectares)*	Current extent (hectares)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Pilbara	17,804,188	17,794,647	~99.95	Least Concern	~6.32
Beard veg assoc. – State					
589	809,754	809,754	~100	Least Concern	~1.6
Beard veg assoc. – Bioregion					
589	730,718	730,683	~100	Least Concern	~1.8

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

Methodology Department of Natural Resources and Environment (2002).
EPA (2000).
Shepherd (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 at variance to this Principle

No permanent wetlands and watercourses occur within the application area (GIS Database). The application area contains the Turner River, a non-perennial watercourse (GIS Database).

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

The bed of the Turner River will be mined when the river is dry and a part of the bank of the Turner River will be cleared for stockpiling mined sand and for laydown (BGC Contracting, 2009). The proposed clearing was referred to the Department of Water (DoW) (2009) for advice regarding the impacts to the bed and banks of the Turner River. The DoW's advice determined that the proponent will not require a Section 17 of the *Rights in Water and Irrigation Act 1914* permit to Obstruct or Interfere with a Proclaimed Watercourse as the clearing is being conducted within mining tenements that are held by the proponent (DoW, 2009).

As discussed in the vegetation and flora report by Astron Environmental Services (2009), the vegetation types recorded within the application area are relatively typical and do not indicate a particularly high level of biodiversity. As such, the proposed disturbance is unlikely to cause an unacceptable environmental impact.

Methodology Astron Environmental Services (2009).
BGC Contracting (2009).
DoW (2009).
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 may be at variance to this Principle

Land system mapping by the Department of Agriculture and Food Western Australia has mapped a variety of rangeland land systems for the Pilbara IBRA bioregion. Land systems are mapped based on biophysical features such as soil and landform type, geology, geomorphology and vegetation type (Van Vreeswyk et al., 2004). The application area includes one land system (GIS Database). A broad description of the land system is given below:

Yamerina:
The Yamerina land system is characterised by flood plains and deltaic deposits supporting tussock grasslands, grassy woodlands and minor halophytic low shrublands. The Yamerina land system is highly susceptible to degradation or erosion if vegetative cover is removed (Van Vreeswyk et al., 2004).

Advice was requested from the Department of Agriculture and Food (DAFWA), regarding the proposed mineral production within and adjacent to the Turner River. DAFWA advised that mining within the bed of the Turner River is unlikely to be a land degradation hazard; however, the clearing on the banks of the Turner River may erode under flood conditions (DAFWA, 2009).

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

As DAFWA (2009) recommended that a vegetation buffer strip be retained along the river bank to reduce the risk of erosion, a 10 metre buffer was instated along the bank of the Turner River where the sand stockpiles will be placed. Additionally, a larger section of native vegetation will be retained to act as a 'leading edge' against the eroding effect of the flood waters. The exclusion area is 0.07 hectares in size.

With the application of the exclusion area, the proposed clearing of 1.5 hectares for the purpose of mineral production is unlikely to cause appreciable land degradation above what occurs naturally when the Turner River floods.

Methodology DAFWA (2009).
Van Vreeskwyk et al. (2004).
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 a conservation area (GIS Database). The nearest conservation area is the 'A'-class North Turtle Island Nature Reserve (Reserve No. 34578) which is located approximately 70 kilometres north-east of the application area (GIS Database). Given the distance separating the application area from the nature reserve, the proposed clearing is unlikely to impact on the conservation values of the North Turtle Island Nature Reserve.

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 any proclaimed, gazetted or declared management areas or catchments (GIS Database). The Turner River, a non-perennial watercourse which only runs after significant rainfall events (Astron Environmental Services, 2009), is located within the application area. The bed of the Turner River will be mined when the river is dry and a part of the bank of the Turner River will be cleared for stockpiling mined sand and for laydown (BGC Contracting, 2009).

The Department of Water (DoW) was approached for advice regarding the proposed clearing on the bed and banks of the Turner River. The advice received from the DoW determined that the proponent will not require a Section 17 of the *Rights in Water and Irrigation Act 1914* permit to Obstruct or Interfere with a Proclaimed Watercourse as the clearing is being conducted within mining tenements that are held by the proponent (DoW, 2009).

Mining the bed of the Turner River is unlikely to cause deterioration in the quality of surface water and the Turner River has been described as a naturally high-turbidity river which has well mixed circulation (ANRA, 2009). Rainfall in the Pilbara tends to be unpredictable and erratic, and the rocky-sloping topography of much of the upper catchments often produces considerable runoff (Van Vreeswyk et al., 2004). As such, the non-perennial watercourses tend to have high levels of sedimentation and turbidity after rainfall events (Van Vreeswyk et al., 2004). Given the unpredictable nature of rainfall in the Pilbara and the high levels of sedimentation and turbidity within the non-perennial watercourses, the clearing of 1.5 hectares for mineral production is unlikely to impact on surface water quality. ANRA (2009) state that there is a low sedimentation risk associated with the Turner River.

The application area is not located within a Public Drinking Water Source Area (GIS Database). The clearing associated with mineral production is unlikely to have an adverse effect on groundwater quality.

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

Methodology ANRA (2009).
Astron Environmental Services (2009).
BGC Contracting (2009).
DoW (2009).
Van Vreeswyk et al. (2004).
GIS Database:
- Geodata, Lakes.
- Hydrography, linear.
- Public Drinking Water Source Areas (PDWSAs).

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

Comments

Proposal is not likely to be at variance to this Principle

The application area receives between approximately 300 to 350 millimetres of rainfall per annum and has an average evaporation rate of approximately 3,400 millimetres per annum (GIS Database). The Turner River is non-perennial in nature and flows as a result of heavy rainfall (GIS Database).

No permanent waterbodies are located within the application area (GIS Database). The application area includes the Turner River, a non-perennial watercourse, and its floodplain (GIS Database). Although mining of the bed of the Turner River is planned, the mining will be carried out when the river bed is dry (BGC Contracting, 2009). As the Turner River only flows as a result of heavy rainfall, it is unlikely that the proposed clearing will cause or exacerbate the incident or intensity of flooding.

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

Methodology

BGC Contracting (2009).

GIS Database:

- Evaporation Isopleths (Evaporation).
- Geodata, Lakes.
- Hydrography, linear.
- Isohyets (Rainfall).

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

Comments

There is one native title claim over the area under application; WC99_003 (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenements have been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e., the proposed clearing activity) has been provided for in that process; therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no known Aboriginal Sites of Significance within the application area and within 2 kilometres of the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Sites of Aboriginal Significance are damaged through the clearing process.

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

One submission was received by the Department of Mines and Petroleum for this application, however there were no objections raised with regard to the assessment of the application.

Methodology

GIS Database:

- Aboriginal Sites of Significance.
- Native Title Claims.

4. Assessor's comments

Comment

The clearing principles have been addressed and the proposed clearing is at variance to Principle (f), may be at variance to (g), is not likely to be at variance to Principles (a), (b), (c), (d), (h), (i) and (j) and is not at variance to Principle (e).

Should the permit be granted, it is recommended that conditions be imposed on the permit for the purposes of weed management, rehabilitation, record keeping and permit reporting.

5. References

ANRA (2009) Estuary assessment framework for non-pristine estuaries: Estuary 677 (Turner River). Australian Natural Resources Atlas. Accessed at http://www.anra.gov.au/topics/coasts/pubs/estuaries/estuary677.pdf. Accessed 19/10/2009. Department of the Environment, Water, Heritage and the Arts, Australia.

Astron Environmental Services (2009) Turner River Leases: Level 1 vegetation, flora and fauna survey. July 2009. Astron Environmental Services, Western Australia.

BGC Contracting (2009) Turner River Project. Application for a clearing permit (purpose permit): Form C2. BGC Contracting Pty Ltd, Western Australia.

CALM (2002) A biodiversity audit of Western Australia's 53 biogeographical subregions in 2002. Department of Conservation and Land Management, Western Australia.

DAFWA (2009) Advice to the assessing officer, received on 30 October 2009, Department of Agriculture and Food.

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.

DoW (2009) Advice to the assessing officer, received on 8 October 2009, Department of Water.

EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority, 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.

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.

Van Vreeswyk, A.M., Payne, A.L., Leighton, K.A. & Hennig, P. (2004) Technical bulletin no. 92: An inventory and condition survey of the Pilbara region, Western Australia. Department of Agriculture, South Perth, Western Australia.

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.