



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3399/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Karara Mining Limited

1.3. Property details

Property: General Purpose Lease 59/38

Local Government Area: Shire of Perenjori

Colloquial name: Karara to Tilley Rail Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
67		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. The following Beard Vegetation Associations are located within the application area (GIS Database; Shepherd, 2007):

358: Shrublands; bowgada & *Acacia quadrimarginea* on stony ridges; and

363: Shrublands; bowgada scrub with scattered cypress pine.

Woodman Environmental Consulting undertook a vegetation survey over the application area during Spring 2008. The following vegetation communities were recorded within the application area (Karara Mining, 2009):

T2: Thicket to Scrub dominated by *Acacia burkittii* over Dwarf Scrub or Herbs on red loamy clay;

T3: Thicket to Open Scrub of mixed *Acacia* species over Heath dominated by *Thryptomene costata* or *Aluta aspera* subsp. *hesperia* on red silty-clay with gravel and ironstone;

T5: Thicket dominated by mixed *Melaleuca* and *Acacia* species on red silty-clay on flats and slopes;

W1: Open Low Woodland dominated by *Eucalyptus loxophleba* subsp. *supralaevis* over Thicket to Scrub of *Acacia* species over Dwarf Scrub of mixed species over Herbs on red loamy soils with gravel; and

W3: Open Low Woodland of *Eucalyptus kochii* subsp. *plenissima* over Thicket of mixed *Acacia* species on red loamy-clay.

Clearing Description

Karara Mining has applied to clear up to 67 hectares for the purpose of constructing a rail loop as part of its Karara to Tilley rail project, located approximately 50 kilometres north-east of Perenjori (GIS Database).

The proposal includes the construction of 4.16 kilometres of rail loop and loading and stockpiling infrastructure (Karara Mining, 2009). Clearing will be by mechanical means.

Vegetation Condition

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

to

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment

The vegetation condition was assessed by botanists from Woodman Environmental Consulting.

Three weed species were recorded within the application area (Karara Mining, 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 may be at variance to this Principle

The area applied to clear is within the Yalgoo Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). The Yalgoo bioregion is an interzone between the South-western and Murchison bioregions, and whilst it is rich and diverse in flora and fauna, most species are wide ranging and typically occur in one or more adjoining bioregions (CALM, 2002). Pastoralism is the dominant land use in the Yalgoo

bioregion, comprising approximately 76% of the total land area (CALM, 2002). However, mining also has an increasing interest in the bioregion (CALM, 2002).

Five vegetation communities were recorded within the application area, which ranged in condition from 'excellent' to 'very good' (Karara Mining, 2009). The flora survey over the application area recorded 183 flora species from 89 genera and 41 families (Karara Mining, 2009). Three of the species recorded were weed species (Karara Mining, 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 on the permit for the purpose of weed management.

The Priority Flora species *Gunniopsis rubra* (Priority 3) was recorded within the application area (Karara Mining, 2009). There were 11 individuals recorded from one location (Karara Mining, 2009). This species was recorded from 49 other locations during the broader mining project survey (Karara Mining, 2009). Given this, the removal of 11 individuals is not likely to have a significant impact on biodiversity in the local area.

The application area is within the boundary of the Priority Ecological Community (PEC) Blue Hills (Mt Karara/Mungada Ridge/Blue Hills) vegetation complexes (banded ironstone formation) (GIS Database). The vegetation recorded within the boundary of the PEC was not associated with banded ironstone formations (Karara Mining, 2009). Given this, the PEC is not likely to be impacted.

The pastoral landscape occupied by the application area is likely to support a largely intact faunal assemblage (Karara Mining, 2009). Fauna studies of the application area have confirmed two frog species, over 30 reptile species, over 80 avian species and over 20 mammal species within the application area (Karara Mining, 2009). The conservation listed species Malleefowl (*Leipoa ocellata*) and Western Spiny-tailed Skink (*Egernia stokesii badia*) are known to breed within the application area (Karara Mining, 2009). On this basis, the proposed clearing area may support a high level of faunal diversity.

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

Methodology CALM (2002)
Karara Mining (2009)
GIS Database
- Interim Biogeographic Regionalisation of Australia
- Threatened Ecological Sites
- Threatened Ecological Sites Boundaries

(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 at variance to this Principle

Several fauna surveys have been conducted over the application area, including targeted searches for Malleefowl (*Leipoa ocellata*) and Western Spiny-tailed Skink (*Egernia stokesii badia*) (Karara Mining, 2009).

The habitat within the application area has been described as lower slopes of gravelly loam soils supporting Acacia thickets with small areas of plains of clay-loam soils supporting Eucalypt woodland and Acacia thickets (Karara Mining, 2009). Several fauna species of conservation significance have the potential to occur within the application area, but based on the habitat present Malleefowl, Western Spiny-tailed Skink, Major's Mitchell's Cockatoo (*Cacatua leadbeateri*) and the Shield-backed Trapdoor Spider (*Idiosoma nigrum*) are considered the most likely to be present (Karara Mining, 2009).

Searches were made for Shield-backed Trapdoor Spider (Schedule 1 'Fauna that is rare or is likely to become extinct', *Wildlife Conservation (Specially Protected Fauna) Notice 2008*) burrows, however, none were recorded within the application area (Karara Mining, 2009). The proposed clearing is not likely to have a significant impact on this species.

Major Mitchell's Cockatoo (Schedule 4 'Other specially protected fauna', *Wildlife Conservation (Specially Protected Fauna) Notice, 2008*) has been recorded outside the application area during the fauna survey of the greater rail project (Karara Mining, 2009). Two individuals were observed flying out of a tree hollow, however, there was no evidence that the area was being used for breeding (Karara Mining, 2009). The plant community W1 in which the hollow was located is present within the application area. The proposed clearing may result in the loss of some potential breeding habitat, however, this vegetation community is common locally and is not expected to result in a significant impact on this species (Karara Mining, 2009).

Three Malleefowl ('Vulnerable' under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* and Schedule 1 'Fauna that is rare or is likely to become extinct', *Wildlife Conservation (Specially Protected Fauna) Notice 2008*) mounds have been recorded within the application area (Karara Mining, 2009). At the time of the survey two of the mounds were considered to be inactive and one was recently active (Karara Mining, 2009). All three mounds will be removed during the proposed clearing. Karara Mining (2009) in consultation with the Department of Environment and Conservation and Department of Environment Water Heritage and the Arts, has developed a Malleefowl management plan that sets out procedures for the disturbance of mounds. The proposed clearing will result in the loss of Malleefowl habitat within the local area. However, this habitat is not restricted to the application area and the proposed clearing is not expected to have

a significant impact on Malleefowl in the region (Karara Mining, 2009). Karara Mining have obtained a Licence to take fauna from the Species and Communities Branch of the Department of Environment and Conservation.

The Western Spiny-tailed Skink ('Endangered' under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* and Schedule 1 'Fauna that is rare or is likely to become extinct', *Wildlife Conservation (Specially Protected Fauna) Notice 2008*) has been recorded within the application area. A targeted search recorded one colony within the application area (Karara Mining, 2009). Suitable habitat within the application area appears to be limited, however, regional surveys have found that suitable habitat is locally and regionally extensive (Karara Mining, 2009). Karara Mining (2009) has also developed a Western Spiny-tailed Skink management plan, and plans to translocate the population within the application area. Should a permit be granted, it is recommended that a condition be imposed for the translocation of Western Spiny-tailed Skinks.

Karara Mining plan to develop an offset proposal to mitigate the loss of Malleefowl and Western Spiny-tailed Skink habitat over the entire Karara Iron Ore Project (Karara Mining, 2009)

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

Methodology Karara Mining (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) species within the application area (GIS Database). Woodman Environmental Consulting (2009) conducted a flora survey over the application area during Spring 2008. No DRF was recorded within the application area (Karara Mining, 2009).

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

Methodology Karara Mining (2009)
Woodman Environmental Consulting (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

According to available databases, there are no Threatened Ecological Communities (TEC's) within the application area (GIS Database). No TEC's were identified during the vegetation survey (Karara Mining, 2009).

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

Methodology Karara Mining (2009)
GIS Database
- Threatened Ecological Sites
- Threatened Ecological Boundaries

(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 is within the Interim Biogeographic Regionalisation of Australia (IBRA) Yalgoo bioregion (GIS Database). According to Shepherd (2007) there is approximately 98.9% of the Pre-European vegetation remaining in the Yalgoo bioregion (see table).

The vegetation of the application area has been mapped as (GIS Database):

- Beard Vegetation Association 358: Shrublands; bowgada & *Acacia quadrmarginea* on stony ridges; and
- Beard Vegetation Association 363: Shrublands; bowgada scrub with scattered cypress pine.

According to Shepherd (2007) approximately 100% of the Pre-European vegetation of Beard Vegetation Association 363 and 99.8% of Beard Vegetation 358 remains at a state level. Approximately 100% of both Beard Vegetation Associations remains within the Yalgoo bioregion (Shepherd, 2007).

The vegetation in the local area has not been extensively cleared and the application area does not represent a significant remnant of native vegetation in the local or wider regional area. The proposed clearing will not reduce the extent of Beard Vegetation Associations 358 and 363 below the current recognised threshold level of 30% of the pre-clearing extent of the vegetation type (below which species loss accelerates exponentially at an ecosystem level) (Shepherd et al., 2001).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Yalgoo	5,057,316	5,001,943	~98.9	Least concern	9.85
Beard vegetation associations - State					
358	59,719	59,624	~99.8	Least concern	-
363	247,655	247,655	~100	Least concern	75
Beard vegetation associations - Bioregion					
358	55,530	55,530	~100	Least concern	-
363	246,250	246,250	~100	Least concern	75.1

* Shepherd (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 proposed clearing is not at variance to this Principle.

Methodology Department of Natural Resources and Environment (2002)
Shepherd et al. (2001)
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 may be at variance to this Principle

According to available databases, there is one minor, non perennial watercourse that crosses the application area (GIS Database). The vegetation survey did not identify any vegetation types associated with a watercourse within the application area (Karara Mining, 2009). Karara Mining plans to install environmental culverts to maintain existing flow paths (Karara Mining, 2009).

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

Methodology Karara Mining (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

Land system mapping by the Department of Agriculture Western Australia has mapped a variety of land systems for the Yalgoo bioregion. Land systems are mapped based on biophysical features such as soil and landform type, geology, geomorphology and vegetation type (Payne, et. al., 1998). The proposed clearing area includes three land systems (GIS Database). A broad description is given below (Payne et al., 1998):

Joseph Land System: This land system is characterised by undulating sandplain supporting dense mixed shrublands with patchy mallees. In its natural state this system is not susceptible to soil erosion.

Nerramyne Land System: This land system is characterised by undulating sandy and gravelly plains with low plateaux and breakaways supporting Acacia shrublands. This system is generally not susceptible to erosion because of its stoniness.

Yowie Land System: This Land system is characterised by loamy plains supporting shrublands of mulga and bowgada with patchy wanderie grasses. This system is generally not susceptible to soil erosion.

At a broad scale the pH of the surface soil within the application area ranges from 4.8 – 6.0 (CSIRO, 2009). There is no known occurrence of acid sulphate soils within the application area (CSIRO, 2009). The topography of the application area is generally flat to undulating and the soils are well drained (Karara Mining, 2009). Therefore, the risk of water erosion will not be high.

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

Methodology CSIRO (2009)
Karara Mining (2009)
Payne et al. (1998)
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 may be at variance to this Principle**
According to available databases, the application area is located within a conservation reserve (GIS Database). The application area is located on the former Karara pastoral lease which has been purchased by the DEC for the purpose of conservation. The Karara pastoral lease contains banded ironstone formations that comprise a high level of biological diversity (Government of Western Australia, 2000). The application area is not located on the banded ironstone formation (Karara Mining, 2009). The proposed clearing may potentially increase the spread and occurrence of weeds within the former Karara pastoral lease. Should a permit be granted, it is recommended that a condition be imposed on the permit for the purpose of weed management.

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

Methodology Government of Western Australia (2000)
Karara Mining (2009)
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**
According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

The average annual rainfall in the area is 400 millimetres and the average annual evaporation rate is 2,800 – 3,000 millimetres (GIS Database). Therefore, during normal rainfall events surface water in the application area is likely to evaporate quickly. However, substantial rainfall events create surface sheet flow which is likely to have a higher level of sediments. During normal rainfall events, the proposed clearing would not likely lead to an increase in sedimentation of watercourses within the application area. Karara Mining (2009) plan on implementing measures such as drainage systems, scour management and rehabilitating areas as soon as possible to minimise the sediment load in the surface water.

The groundwater depth is estimated to be 10 to 15 metres below ground level (Karara Mining, 2009). Water quality has been recorded in the order of 2,000 – 3,000 milligrams per litre Total Dissolved Solids (TDS) (Karara Mining, 2009). This is considered to be brackish. The clearing of 67 hectares of native vegetation is not likely to alter the quality of groundwater within the local and surrounding areas.

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

Methodology Karara Mining (2009)
GIS Database
- Evaporation Isopleths
- Public Drinking Water Source Areas (PDWSA's)
- Rainfall, Mean Annual

(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 climate of the application area can be described as Mediterranean characterised by seven to eight months of dry weather with cold, wet winters and hot, dry summers (Payne et al., 1998). The application area receives an average annual rainfall of approximately 400 millimetres (GIS Database). Based on an average annual

evaporation rate of 2,800 – 3,000 millimetres (GIS Database) any surface water resulting from rainfall events is likely to be relatively short lived. Native vegetation clearing is likely to increase surface water run-off, however, there is not likely to be an increase in the incidence or intensity of natural flood events in the local or regional area. Karara Mining (2009) are planning to install culverts in the rail loop to reduce the potential for flooding.

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

Methodology Karara Mining (2009)
Payne et al. (1998)
GIS Database
- Evaporation Isopleths
- 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 was one submission received stating no objections to the clearing.

There are no native title claims over the area under application (GIS Database). However, the mining tenement 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 (Karara Mining, 2009). It is the proponent's 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 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.

Methodology Karara Mining (2009)
GIS Database
- Aboriginal Sites of Significance
- Native Title Claims

4. Assessor's comments

Comment

The proposal has been assessed against the Clearing Principles, and the proposed clearing is at variance to Principle (b), may be at variance to Principles (a), (f) and (h), is not likely to be at variance to Principles (c), (d), (g), (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, record keeping and reporting.

5. References

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- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Government of Western Australia (2007) Strategic Review of the Conservation and Resource Values of the Banded Iron Formations of the Yilgarn Craton. Published jointly by the Department of Environment and Conservation and the Department of Industry and Resources, Perth, Western Australia.
- Karara Mining (2009) Native Vegetation Clearing Permit Application: Rail Loop and Associated Infrastructure. Unpublished report by Karara Mining Ltd, October 2009.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Payne, A.L., Van Vreeswyk, A.M.E., Pringle, H.J.R., Leighton, K.A., and Hennig, P. (1998) An inventory and condition survey of the Sandstone-Yalgoo-Paynes Find area, Western Australia. Department of Agriculture, 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.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Woodman Environmental Consulting (2009) Flora and Vegetation Survey of the Railway Corridor and Associated Borrow Pits (Karara to Tilley Siding). Unpublished report for Karara Mining Ltd, July 2009.

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.