



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5640/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Mobile Concreting Solutions Pty Ltd

1.3. Property details

Property: Mining Lease 45/1232
Local Government Area: Town of Port Hedland
Colloquial name: Indee Sand Quarry

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
91		Mechanical Removal	Mineral Production and Associated Activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 1 August 2013

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description Beard vegetation associations have been mapped for the whole of Western Australia. Three Beard associations are located within the application area (Government of Western Australia, 2013: GIS Database)

93: Hummock grasslands, shrub steppe; kanji over soft spinifex

619: Medium woodland; river gum (*Eucalyptus camaldulensis*)

647: Hummock grasslands, dwarf-shrub steppe; *Acacia translucens* over soft spinifex

A flora and vegetation survey was conducted over the application area on 30 May and 1 June 2012 by Astron Environmental Services (AES) (2013a). The application area comprised the following vegetation types;

River Levee with red sands and loams

R1i: *Acacia tumida* with *A. trachycarpa* closed tall shrubland over *Triumfetta propinqua*/*Corchorus incanus* subsp. *incanus* over *Eriachne obtuse*, *Eragrostis eriopoda*, *Aristida hygrometrica* and *Triodia schenzii*.

River Flood Plain and Outer River Bank with deep red alluvial sands

R3i: *Corymbia hamersleyana* open woodland over *Acacia inaequilatera*/*A. tumida* open tall shrubland over *Triodia lanigera* hummock grassland with some *T. epactia*.

R3ii: *Corymbia hamersleyana* open woodland over *Acacia inaequilatera* tall open heath with *A. orthocarpa*, *A. acradenia*, *A. trachycarpa* over *Triodia lanigera*, *T. epactia* mixed hummock grassland.

River Bed and Inner Banks with washed sands, stones and gravels

R51: *Melaleuca argentea* scattered to open low woodland over very scattered *Crotalaria cunninghamii*, *Petalostylis labicheoides* and *Cajanus cinereus*.

R5ii: *Melaleuca argentea* scattered tall trees over mixed *Acacia trachycarpa*, *M. lasiandra*, *A. pyrifolia* var *morrisonii* mixed open shrubland.

R5iii: *Eucalyptus victrix* open low woodland over *Acacia trachycarpa* tall shrubland with mixed *A. coriacea*, *A. orthocarpa*, *A. tumida*, *Grevillea wickhamii* over very scattered *Triodia longiceps*, *T. lanigera*, *T. epactia* hummocks and sedges *Cyperus vaginatus* and *C. blakeanus*.

R5iv: *Acacia trachycarpa*/*A. tumida* tall closed shrubland over *Corchorus incanus* subsp. *incanus*, *Sida rohlenae* open mixed low shrubland over open *Triodia epactia*/*T. lanigera* open hummock grassland. Scattered *Eucalyptus victrix*.

Level Sandy Loamy Plain with scalds

M6i: *Triodia lanigera* hummock grassland on red loamy plain with intrusions of sandy scald.

Level Red Sand Plain

U4i: *Acacia inaequilatera* scattered to open tall shrubland over mixed *Acacia* species (*A. coleii*, *A. tumida*, *A.*

acradenia, *A. ancistrocarpa*) shrubland to open heath over *Triodia epactia* hummock grassland with *Aristida hygrometrica*. There are scattered *Corymbia zygomphylla* and *C. hamersleyana*.

Clearing Description	Mobile Concreting Solutions Pty Ltd (Mobile Concreting) has applied to clear up to 91 hectares of native vegetation for the purpose of mineral production. The clearing is for extracting sand, clearing for access tracks, installation of the screening plant and pit, and associated infrastructure. Vegetation will be cleared by dozers.
Vegetation Condition	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);
Comment	The application area is located with the Pilbara region of Western Australia and is situated approximately 50 kilometres south-southwest of Port Hedland. The vegetation condition was assessed by botanists from AES (2013a). AES (2013a) note that despite the lack of rain in the two months prior to the survey, the above average rainfall received in January and March meant that seasonal conditions for the survey were adequate.

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 application area occurs on the Turner River, which falls within the Chichester (PIL1) subregion of the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). This subregion is described as undulating Archaean granite and basaltic plains which include significant areas of basaltic ranges (CALM, 2002). Plains support a shrub steppe characterised by *Acacia inaequilatera* over *Triodia wiseana* (formally *Triodia pungens*) hummock grasslands, while *Eucalyptus leucophloia* tree steppes occur of ranges (CALM, 2002).

A flora and vegetation survey has been conducted over the application area by AES (2013a). The survey identified a total of 109 taxa from 32 families representing 66 genera (AES, 2013). It was noted that there is currently significant mining activity along the Turner River however the area subject to this application is in a relatively pristine condition.

No Threatened flora or Threatened or Priority Ecological Communities were recorded within the application area (AES, 2013a). Two Priority 1 Flora species were recorded; *Abutilon pritzelianum* and *Heliotropium muticum* (AES, 2013a), within the survey area. According to coordinates provided by AES (2013a), these individual plants did not occur within the application area.

Three introduced flora species were recorded during the flora survey (AES, 2013a). AES (2013a) noted during their survey that the vegetation cover of introduced flora species was relatively low compared to other sections of the Turner River. Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

A fauna desktop assessment was carried out of the application area, based on the flora and vegetation survey and available databases (AES, 2013a). Six broad fauna habitats were found within the application area. AES (2013a) noted a relatively abundant and diverse bird life at the time of the survey, which is most likely attributed to the dense layer of fringing riparian vegetation. The application area is likely to support more fauna species when the river is flowing as they would be attracted to the water source. Mobile Concreting plan to extract sand only during dry periods and no standing water will be left following extraction campaigns (AES, 2013a). AES (2012b) also advise that Mobile Concreting will not clear within five metres of the river bank A fauna management condition is recommended to ensure that impacts to potentially significant fauna habitat is minimised.

Given the application area potentially supports a diverse avian population; the proposed clearing may be at variance to this Principle. However the recommended permit conditions and management practices outlined by Mobile Concreting will ensure that the proposed clearing does not significantly impact on the fauna species or habitats.

Methodology	AES (2013a) AES (2013b) CALM (2002) Government of Western Australia (2013) GIS Database: - IBRA WA (regions - subregions) - Threatened and Priority Flora - Threatened Ecological Sites Buffered
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(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments Proposal may be at variance to this Principle

AES (2013a) identified six broad habitat types within the application area:

- river bed,
- inner river bank and raised river bed,
- river floodplain and outer river bank,
- levee with red sands and loams,
- level red sand plain and
- level sandy loamy plain with some scalds.

According to AES (2013a) these habitat types are comparable to the River, Uaroo and Mallina land system units as described by Van Vreeswyk *et al* (2004). These three systems are well represented in the Pilbara region (AES, 2013).

AES (2013a) noted that the fringing layer of vegetation on both sides of the river was relatively dense and in near-pristine condition. Although a detailed survey was not undertaken, AES did observe a large number and great diversity of bird life (AES, 2013a). The dense shrub layer is important foraging ground and habitat for passerine bird species, while large riverine trees provide nesting habitat for larger birds of prey and migratory species. Wetland bird species may also occupy the periphery of fresh water pools that remain after high flow events.

A desktop search conducted by AES (2013a) recorded seven conservation significant fauna species and seven migratory bird species occurring within 15-20 kilometres of the application area. These were:

- Woma Python (Schedule 4 – *Wildlife Conservation Act 1950*)
- Australian Bustard (Department of Park and Wildlife (DPaW) Priority 4)
- Ghost Bat (DPaW – Priority 4)
- Western Pebble-mound Mouse (DPaW – Priority 4)
- Northern Quoll (EPBC Act – Endangered)
- Bilby (EPBC Act – Vulnerable)
- Brush-tailed Mulgara (EPBC Act – Vulnerable)
- Pilbara Leaf-nosed Bat (EPBC Act – Vulnerable)

An analysis of preferred habitat and home range suggests that the out of these species, the two most likely to use the application area are the Bilby and Brush-tailed Mulgara due to the presence of sandy plains. AES (2013a) did note diggings during their survey, however confirmed that these diggings belonged to a large reptile species, possibly a monitor. No onsite evidence of these species was found (AES, 2013a). The majority of the application area falls within the river channel which is highly unstable. This means there is limited habitat available for terrestrial fauna.

Although the vegetation potentially supports a diverse range of fauna, particularly avian fauna, the habitats present are not restricted to the application area and are unlikely to represent significant habitat (AES, 2013a). Highly mobile species that may be affected can readily source alternative habitat in the vicinity of the application area.

To minimise the potential impact to habitat, Mobile Concreting has indicated that sand extraction will not occur within five metres of the river bank and trees over 150 millimetres in diameter will be retained (AES, 2013b). Mobile Concreting has also advised that excavation areas will be ramped to provide egress for fauna (AES, 2013b). A fauna management condition is recommended requiring the retention of trees over 500 millimetres in diameter to maintain habitat for birds.

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

Methodology AES (2013a)
AES (2013b)
Van Vreeswyk et al (2004)

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

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

According to available databases, there are no records of Threatened Flora species within the application area (GIS Database). A search of the Department of Environment and Conservations' Threatened and Priority Flora databases identified no Threatened Flora species as occurring within a 20 kilometre radius of the application area (DEC, 2013).

No threatened flora was recorded during the vegetation survey undertaken by AES (2013a).

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

Methodology DEC (2013a)
AES (2013a)
GIS Database:
- Threatened and Priority Flora

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

Comments **Proposal is not likely to be at variance to this Principle**
According to available databases, there are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest known TEC is approximately 180 kilometres south-west of the application area (GIS Database).

The vegetation survey did not record any TECs (AES, 2013a).

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

Methodology AES (2013a)
GIS Database:
- Threatened Ecological Sites Buffered

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

Comments **Proposal is not at variance to this Principle**
The application area is located within the Pilbara Interim Biogeographical Regionalisation of Australia (IBRA) bioregion (GIS Database) of which approximately 99.5% of pre-European vegetation remains (Government of Western Australia, 2013).

The vegetation within the application area has been broadly mapped as Beard vegetation associations:

93: Hummock grasslands, shrub steppe; kanji over soft spinifex

619: Medium woodland; river gum (*Eucalyptus camaldulensis*)

647: Hummock grasslands, dwarf-shrub steppe; *Acacia translucens* over soft spinifex

Approximately 100% of Beard vegetation associations 93 and 619 and 97% of Beard vegetation association 647 remain within the Pilbara bioregion (Government of Western Australia, 2013).

At a local context, a review of aerial photography indicates that the surrounding areas appear to be vegetated and the vegetation proposed to be cleared does not form a linkage between significant areas of vegetation (GIS Database).

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

Methodology Government of Western Australia (2013a)
GIS Database:
- IBRA WA (Regions – Sub Regions)
- Pre-European Vegetation
- Yule 1.4m Orthomosaic - Landgate 2002

(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**
The application area occurs within and adjacent to the Turner River (GIS Database). Mobile Concreting is proposing to clear up to 72 hectares of native vegetation with the Turner River for the purpose of sand extraction, and a further 19 hectares adjacent for infrastructure. The Turner River is an ephemeral watercourse, and Mobile Concreting proposes to mine the sand in 2.5 hectare campaigns during dry periods (AES, 2013a).

Several vegetation communities have been identified as growing in association with the Turner River (AES, 2013a). These are predominantly located along the banks of the river and within the main drainage channel. Removing vegetation from the river channel is not likely to have a significant impact as soil lost from water erosion will likely be replaced by soil deposition following flood events. The removal of vegetation from the river banks could potentially cause destabilisation and erosion as well as habitat loss for fauna using the application area.

Mobile Concreting has advised that excavations will not be undertaken within five metres of the river bank to avoid erosion which may undermine the bank (AES, 2013b). Aerial photography indicates that the application

area is setback from the river bank (GIS Database). Excavations will also be setback three metres from the drip line of any significant vegetation and trees over 150 millimetres of will not be cleared when procuring material or establishing access to the excavation area (AES, 2013b).

Based on the above, the proposed clearing is at variance to this Principle; however, Mobile Concreting has indicated a number of measures to preserve significant riparian vegetation. The vegetation association mapping conducted by AES (2013a) indicates that there are areas of riparian vegetation directly to the north of the application area that will be left intact. Any fauna that may be impacted by the proposed clearing could potentially use this vegetation for habitat and/or foraging. A fauna management condition is also recommended to preserve significant habitat trees occurring within the application area.

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

Methodology AES (2013a)
AES (2013b)
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 may be at variance to this Principle

The application area is located within the River land system of the Pilbara region (GIS Database; Van Vreeswyk et al., 2004). This system is characterised by active flood plains and major rivers supporting grassy eucalypt woodlands, tussock grasslands and soft spinifex grasslands (Van Vreeswyk et al., 2004). The susceptibility to erosion is high or very high if vegetative cover is removed (Van Vreeswyk et al., 2004).

The clearing of native vegetation has the potential to cause soil erosion by destabilising soils. Given the high level of sediment recharge, it is predicted that excavated areas will refill naturally through soil deposition after flood events (AES, 2013b). Excavations will be undertaken in a manner which enables the river bed pit to be concave rather than a trapezoidal drain with vertical sides (AES, 2013b). It is predicted that the increased surface area will reduce flow velocity thereby limiting the level of soil erosion on the banks (AES, 2013b).

The proposed infrastructure area adjacent to the Turner River is within a flood plain area (AES, 2013a); therefore it is considered likely that any soil erosion caused by the clearing of native vegetation will be recharged after flood events.

Mobile Concreting intend on excavating in 2.5 hectare campaigns, starting from the north and moving southerly towards the centre of the application area (AES, 2013b). Only 2.5 hectares will be active at any given time (AES, 2013b).

Given that the River land system and river bed areas proposed to be cleared have a very high susceptibility to erosion when vegetation cover is removed there may be an increased risk of wind and water erosion associated with this mining activity. Impacts from erosion may be minimised by the implementation of a staged clearing condition.

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

Methodology AES (2013a)
AES (2013b)
(Van Vreeswyk 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 any conservation area (GIS Database). The nearest conservation area is Mungaroona Nature Reserve, located approximately 78 kilometres south-west of the application area (GIS Database).

Given the distance of the application area from Mungaroona Nature Reserve, the proposed clearing is not likely to impact the environmental values of the conservation area.

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

Methodology GIS Database:
- DEC Tenure

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

Comments Proposal not likely to be at variance to this Principle

The area applied to be cleared is not within a Public Drinking Water Source Area (PDWSA) (GIS Database).

The proposed clearing of native vegetation from the Turner River has the potential to destabilise soils which can lead to sedimentation and turbidity. AES (2013a) has advised that the application area receives a significant sediment recharge after flood events, indicating the Turner River already contains a relatively high level of mobile sediments. The proposed clearing is not likely to significantly contribute to this sediment load. To reduce the risk of erosion, Mobile Concreting intend on retaining trees over 150 millimetres in diameter and maintain a five metre buffer between excavations and the river bank (AES, 2013b).

AES (2013a) advise that groundwater exists in a shallow, unconfined alluvial aquifer. Mobile Concreting proposes to extract sand to the bed load level only and that extraction depths will be modified if groundwater is encountered.

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

Methodology AES (2013a)
AES (2013b)
GIS Database:
- 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 not likely to be at variance to this Principle

The area under application is located within and adjacent to the ephemeral Turner River (GIS Database). The Turner River is a relatively large watercourse that flows during flood events into the Indian Ocean approximately 45 kilometres downstream (GIS Database).

The Pilbara region has a tropical arid climate with hot wet summers and mild dry winters (AES, 2013a). Tropical cyclones that track inland from the coast bring about widespread rain and flooding (AES, 2013a). It is expected that the Turner River experiences seasonal flooding during these high rainfall events. It is not considered likely that the proposed clearing will increase the incidence or intensity of this flooding.

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

Methodology AES (2013a)
GIS Database:
- Hydrography - Linear

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

Comments

There is one Native Title Claim (WC99/3) over the area under application (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There is one registered Aboriginal Site of Significance within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal sites of significance are damaged through the clearing process.

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

The clearing permit application was advertised on 24 June 2013 inviting submissions from the public. There was one submission received raising no objections.

Methodology GIS Database:
- Native Title Claims - Registered with the NNTT

4. References

- AES (2013a) Indee Sand Quarry Level 1 Flora and Vegetation Survey. Unpublished Report for Mobile Concreting Solutions Pty Ltd.
- AES (2013b) Indee Sand Quarry Mining Tenement M45/1232 and Miscellaneous Tenement L45/328 Mining Proposal. Prepared for Mobile Concreting Solutions Pty Ltd.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management.
- DEC (2013) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. <http://naturemap.dec.wa.gov.au/default.aspx> (date accessed 20 July 2013).
- Government of Western Australia. (2013). 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A. and Hennig, P. (2004) Technical Bulletin - An Inventory and Condition Survey of the Pilbara Region, Western Australia, No. 92. Department of Agriculture, Government of Western Australia, Perth, Western Australia.

5. Glossary

Acronyms:

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

Definitions:

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

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

Environment, after recommendation by the State's Endangered Flora Consultative Committee.

- X Declared Rare Flora - Presumed Extinct taxa:** taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

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

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

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

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

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

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