Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4305/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Hamersley Iron Pty Ltd**

1.3. Property details

Property: *Iron Ore (Hamersley Range) Agreement Act 1963*, Special Lease for Mining Operations 3116/9678 (Document I 123612 L), Lot 175 on Deposited Plan 26146
Iron Ore (Hamersley Range) Agreement Act 1963, Special Lease for Mining Operations 3116/8870 (Document I 126349 L), Lot 215 on Deposited Plan 216769
Iron Ore (Hamersley Range) Agreement Act 1963, Special Lease for Mining Operations 3116/4984 (Document I 195323 L), Lot 32 on Deposited Plan 47815
Local Government Area: Roebourne
Colloquial name: 7 Mile Rail Yard Expansion

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
20		Mechanical Removal	Railway construction and associated activites

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 26 May 2011

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

Beard vegetation association has been mapped at a 1:250,000 scale for the whole of Western Australia. The vegetation of the application area is broadly mapped as **Beard vegetation association 589**: Mosaic: Short bunch grassland - savanna/grass plain (Pilbara)/Hummock grasslands, grass steppe; soft spinifex (GIS Database; Shepherd, 2009).

Rio Tinto Iron Ore (2010) conducted a flora survey of the application area and surrounding areas between 13 and 14 April 2010, and described the vegetation communities of the application area as follows:

Stony Clay Plain

1. AmixCcil: Mixed *Acacia* open to very open shrubland over *Cenchrus ciliaris* tussock grassland;

Clay Plain

2. AmixElCwTeTwCcilHmix: Mixed *Acacia* open to very open shrubland over *Eremophila longifolia*, *Corchorus walcottii* scattered low shrubs over *Triodia epactia*, *T. wiseana* open to very open hummock grassland over *Cenchrus ciliaris* very open tussock grassland over scattered mixed herbland;

3. AtCcil: *Acacia trachycarpa* open scrub over *Cenchrus ciliaris* closed tussock grassland;

4. AxTeGmixHmix: *Acacia xiphophylla* open shrubland over *Triodia epactia* scattered hummock grassland over mixed scattered tussock grassland over mixed scattered herbland

Gilgai Clay Plain

5. ApAbSpCcilHmix: *Acacia pyrifolia, A. bivenosa* very open to scattered low shrubland over *Sorghum plumosum, Cenchrus ciliaris* tussock grassland over mixed open herbland;

6. GmixHmix: Mixed tussock grassland over mixed herbland; and

7. ApGmixHmix: *Acacia pyrifolia* scattered low shrubs over mixed tussock grassland over mixed open herbland.

There are also areas mapped as heavily disturbed some of which are completely devoid of native vegetation, often consisting of monocultures of Buffel Grass (*Cenchrus ciliaris*).

Clearing Description

Hamersley Iron Pty Ltd is proposing to clear up to 20 hectares of native vegetation within a 284.4 hectare

application area, for the 7 Mile Rail Yard Operations (Rio Tinto Iron Ore, 2010). The clearing of vegetation is required for rail infrastructure and associated activities.

The vegetation will be cleared using a dozer; blade down. The vegetation and topsoil will be stockpiled separately for use in rehabilitation.

Vegetation Condition

Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).

To:

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

Comment

The application area is located in the Roebourne subregion of Western Australia and is situated approximately 10 kilometres west of the Karratha town site (GIS Database).

The vegetation condition was assessed by botanists from Rio Tinto Iron Ore. The vegetation condition was described using a scale based on Trudgen (1988) and has been converted to the corresponding condition from the Keighery (1994) scale.

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 within the Roebourne (PIL4) subregion of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characteristed 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*. Uplands are dominated by *Triodia* hummock grasslands. Ephemeral drainage lines support *Eucalyptus victrix* or *Corymbia hamersleyana* woodlands. Samphire, *Sporobolus* and mangal occur on marine alluvial flats and river deltas (CALM, 2001).

The vegetation within the application area consists of Beard vegetation association 589, which is common and widespread throughout the Pilbara bioregion with approximately 99.9% of the pre-European vegetation extent remaining (Shepherd, 2009; GIS Database).

A search on the Department of Environment and Conservation's Declared Rare and Priority Flora databases revealed that no Declared Rare Flora (DRF) species and three Priority species may potentially occur within a 20 kilometre radius of the application area (DEC, 2011). A vegetation survey by Rio Tinto Iron Ore (2010) between 13 and 14 April 2010 of the application area and surrounding vegetation identified 70 species of flora taxa belonging to 51 Genera and 22 Families. No DRF or Priority flora species were found within the application area. Rio Tinto Iron Ore (2010) identified seven vegetation communities. The condition of the vegetation types was classified as 'completely degraded' to 'excellent' (Trudgen, 1988). The majority of the application area would be considered to be in 'completely degraded' condition due to the existing rail yard and invasion of Buffel Grass (*Cenchrus ciliaris*). There were three weed species recorded within the application area; Buffel Grass (*Cenchrus ciliaris*), Kapok Bush (*Aerva javanica*) and Speedy Weed (*Flaveria trinervia*) (Rio Tinto Iron Ore, 2010). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

No Threatened Ecological Communities or Priority Ecological Communities (PEC) were recorded or identified within the application area (GIS Database).

The vegetation units GmixHmix and ApGmixHmix have been identified as forming part of the Priority 1 Roebourne Plain coastal grasslands with gilgai microrelief on deep cracking clays (Roebourne Plains gilgai grasslands) Priority Ecological Community (Rio Tinto Iron Ore, 2010). This PEC is restricted to the Karratha area. There has been 60 hectares of the Roebourne Plains gilgai grasslands PEC identified within the application area (Rio Tinto Iron Ore, 2010). There has been an additional 1,114 hectares of this PEC mapped in the Karratha area (Rio Tinto Iron Ore, 2010). Based on the mapped extent and the proposed impact on the PEC, the proposed clearing is not expected to have a significant impact on this PEC.

In addition, the Priority 3 Horseflat land system of the Roebourne Plains PEC has also been identified within the application area (Rio Tinto Iron Ore, 2010). This PEC makes up approximately 186 hectares of the application area, however, a large portion of this would be considered be heavily disturbed (Rio Tinto Iron Ore, 2010). A vegetation survey in an adjacent area mapped approximately 1,401 hectares of this PEC in the local area (Biota Environmental Sciences, 2008). The Horseflat land system covers a broad area outside the application area and ranges in extent from Cape Preston to Whim Creek (a distance of over 400 kilometres). Given this PEC covers such a large area, any small-scaled clearing is not expected to significantly impact the conservation of this PEC.

The presence of PEC's within the application area raises the diversity of the area from a floristic perspective, however, the PEC's have been recorded outside of the application area in both the local area and throughout the Roebourne subregion. However, it is important to note that the distribution and extents of the PEC's

outside of the survey and application areas are not accurately known.

The application area has the potential to support several fauna species of conservation significance. The application area has been previously disturbed and has rail infrastructure running through it. Given this disturbance and habitat fragmentation, the application area is not likely to comprise a high level of faunal diversity.

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

Methodology
Biota Environmental Sciences (2008)
CALM (2001)
DEC (2011)
Rio Tinto Iron Ore (2010)
Shepherd (2009)
Trudgen (1988)
GIS Database:
- IBRA WA (regions - subregions)
- Pre-European Vegetation
- Threatened Ecological Sites Buffered

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

Comments

Proposal is not likely to be at variance to this Principle

No targeted fauna surveys have been conducted over the application area. Broad fauna habitats within the application area have been identified as broad coastal plains supporting mixed *Acacia* shrublands over open spinifex grassland or scattered tussock grassland, and clay plains supporting mixed annual forbs and tussock grasses (Rio Tinto Iron Ore, 2010). The value of these habitats has been somewhat diminished as a result of historical clearing and fragmentation from existing rail infrastructure and access roads (Rio Tinto Iron Ore, 2010). The application area does not contain habitats or faunal assemblages that are ecologically significant, and it is unlikely that any species of conservation significance will be directly affected to a large degree by the clearing of native vegetation in the application area. The proposed clearing is not likely to significantly impact important habitat for endemic fauna.

There are 13 species of conservation significance listed as either Threatened Species under the *Environment Protection and Biodiversity Conservation Act (EPBC) 1999* or protected under Western Australian legislation (*Wildlife Conservation Act 1950*), that may potentially occur within a 20 kilometre radius of the application area (DEC, 2011). The Lakeland Downs Mouse (*Leggadina lakedownensis*) (Priority 4) has been identified as being likely to occur (Rio Tinto Iron Ore, 2010). Whilst the clearing will result in the loss of some habitat, the application area is not likely to represent significant habitat for this or the other 12 conservation significant fauna species.

There is approximately 99.9% of the pre-European vegetation remaining within the Pilbara bioregion (Shepherd, 2009; GIS Database). Given the extent of the native vegetation remaining in the local area and bioregion, the vegetation to be cleared does not represent a significant ecological link.

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

Methodology
DEC (2011)
Rio Tinto Iron Ore (2010)
Shepherd (2009)
GIS Database:
- IBRA WA (regions - subregions)
- Pre-European Vegetation

(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 Declared Rare Flora (DRF) within the application area (GIS Database). A search of the Department of Environment and Conservation's NatureMap database identified no DRF species as occurring within a 20 kilometre radius of the application area (DEC, 2011).

Rio Tinto Iron Ore (2010) conducted a vegetation and flora survey of the application area between 13 and 14 April 2010. No DRF were recorded within the survey area.

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

Methodology
DEC (2011)
Rio Tinto Iron Ore (2010)

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

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

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

Methodology

GIS Database:
- Threatened Ecological Sites Buffered

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

Comments

Proposal is not at variance to this Principle

The application area falls within the Pilbara IBRA bioregion (GIS Database). The vegetation within the application area is recorded as Beard vegetation association 589: Mosaic: Short bunch grassland - savanna/grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex (GIS Database; Shepherd, 2009). According to Shepherd (2009), Beard vegetation association 589 retains approximately 99.9% of its pre-European extent.

Therefore, the area proposed to be cleared is not a significant remnant of native vegetation in an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Pilbara	17,804,193.01	17,785,000.82	~99.89	Least Concern	6.32
Beard vegetation associations - State					
589	809,753.65	809,636.56	~99.99	Least Concern	1.60
Beard vegetation associations - Bioregion					
589	730,717.81	730,683.07	~99.98	Least Concern	1.77

* Shepherd (2009)
** Department of Natural Resources and Environment (2002)

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

Methodology

Department of Natural Resources and Environment (2002)
Shepherd (2009)
GIS Database:
- IBRA WA (regions - subregions)
- Pre-European Vegetation

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

Comments

Proposal is not likely to be at variance to this Principle

According to available databases, there are no watercourses or wetlands within the application area (GIS Database). The vegetation within the application area is not considered to be growing in association with any watercourse or wetland (Rio Tinto Iron Ore, 2010).

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

Methodology

Rio Tinto Iron Ore (2010)
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

According to available databases, the application area is comprised of the Horseflat, Cheerawarra and Ruth land systems (GIS Database). The Ruth land system has a low erosion risk, parts of the Horseflat land system are prone to erosion and the Cheerawarra land system is highly susceptible to wind erosion if vegetation cover is removed (Payne and Tille, 1992). The large majority of the application area consists of the Horseflat land system (GIS Database).

No substantial land degradation is currently evident within the application area (Rio Tinto Iron Ore, 2010). The fringes of the northern boundary are at the junction of the Dampier Salt fields where soil erosion is evident, however, this area is not proposed to be cleared (Rio Tinto Iron Ore, 2010).

The northern portion and the southern tip of the application area have been mapped as having a moderate to low risk of having acid sulphate soils (GIS Database). The majority of these areas have been mapped as being 'Disturbed Vegetation' devoid of native vegetation (Rio Tinto Iron Ore, 2010). However, there will be some clearing of vegetation within these acid sulphate soil risk areas.

Potential land degradation impacts may be minimised by the implementation of a staged clearing and rehabilitation condition.

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

Methodology

Payne and Tille (1992)
Rio Tinto Iron Ore (2010)
GIS Database
- Acid Sulphate Soil Risk Map, Pilbara Coastline
- 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 proposed application area is not located within any conservation areas (GIS Database). The nearest conservation area is Millstream-Chichester National Park, located approximately 50 kilometres south-east of the application area (GIS Database).

Given the distance and water body separating the application area from the Millstream-Chichester National Park, the proposed clearing is not likely to provide a significant ecological linkage or fauna movement corridor and is not likely to impact the environmental values of the conservation area.

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

Methodology

GIS Database:
- DEC Tenure

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

Comments

Proposal is not likely to be at variance to this Principle

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). There is one minor ephemeral watercourse that passes through the southern tip of the application area (GIS Database). The application area is also known to become waterlogged following significant rainfall events (Rio Tinto Iron Ore, 2010). These areas would only support surface water for short periods following significant rainfall events.

The groundwater salinity within the application area is between 1,000 ? 3,000 milligrams per litre of Total Dissolved Solids (TDS) (GIS Database). This is considered to be brackish. The clearing of 20 hectares of vegetation within the application area is not likely to have a significant impact on the quality of groundwater in the local area.

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

Methodology

Rio Tinto Iron Ore (2010)
GIS Database:
- Geodata, Lakes
- Hydrography, Linear
- Public Drinking Water Source Areas

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

Comments

Proposal is not likely to be at variance to this Principle

The application area experiences an arid (semi-desert) tropical climate with highly variable rainfall, with an annual average of approximately 266.5 millimetres per year (CALM, 2001; BoM, 2011). Based on an average annual evaporation rate of 3,200 - 3,600 millimetres (BoM, 2011), any surface water resulting from rainfall events is likely to be relatively short lived.

The small clearing size of 20 hectares in comparison to the size of the Port Hedland Coast catchment area (744,300 hectares) (GIS Database) is not likely to lead to an appreciable increase in run off, and subsequently cause or exacerbate the incidence or intensity of flooding.

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

Methodology

BoM (2011)
CALM (2001)
GIS Database:
- Hydrographic Catchments - Catchments
- Hydrography, Linear

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

Comments

There is one Native Title Claim (WC99/14) 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 are no registered Aboriginal Sites 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 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 11 April 2011 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the proposed clearing.

Methodology

GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Determined by the Federal Court
- Native Title Claims - Registered with the NNTT
- Native Title Claims - Filed at the Federal Court

4. References

Biota Environmental Sciences (2008). A Vegetation and Flora Survey of the Proposed Dampier Salt Saltfield Expansion, unpublished report prepared for Dampier Salt Limited, prepared by Biota Environmental Sciences Pty Ltd.

BoM (2011) Climate Statistics for Australian Locations. A Search for Climate Statistics for Karratha Aero, Australian Government Bureau of Meteorology, viewed 13 April 2011, <http://reg.bom.gov.au/climate/averages/tables/cw_004083.shtml>.

CALM (2001) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 4 (PIL4 - Roebourne synopsis), Department of Conservation and Land Management, Western Australia.

DEC (2011) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, viewed 11 May 2011, <http://naturemap.dec.wa.gov.au>.

Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

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 and Tille, P.J (1992) Technical Bulletin No. 83: An inventory and condition survey of the Roebourne Plains and Surrounds, Western Australia. Department of Agriculture, South Perth, Western Australia.

Rio Tinto Iron Ore (2010) Flora and Vegetation Survey of the 7 Mile Rail Yard Expansion. Supporting documentation for clearing permit application CPS 4305/1.

Shepherd, D.P. (2009) 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.

Trudgen M.E. (1988) A Report on the Flora and Vegetation of the Port Kennedy Area. Unpublished report prepared for Bowman Bishaw and Associates, West Perth.

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.