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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3509/1
Permit type: Purpose Permit

1.2. Proponent details

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

1.3. Property details

Property: *Iron Ore (Rhodes Ridge) Agreement Authorisation Act 1972*
Temporary Reserve 70/4192
Local Government Area: East Pilbara
Colloquial name: RTE Target Drilling Program

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
4		Mechanical Removal	Mineral Exploration

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard Vegetation Associations have been mapped at a 1:250,000 scale for the whole of Western Australia. One Beard Vegetation Association has been mapped within the application area (GIS Database): 18: Low Woodland; mulga (*Acacia aneura*). Pilbara Iron (2007) conducted a vegetation survey over the application area and surrounding vegetation in July 2007. Five vegetation types have been identified within the application area (Pilbara Iron, 2007). These are: Clay/Stony Flats 1 - Mulga Clay Flats: *Corymbia candida*, *Grevillea berryana* scattered low trees over, *Acacia* various *aneura* tall open shrubland over, *Enneapogon polyphyllus*, *Themeda triandra* open tussock grassland; 2 - Stony Flat open Shrubland (Fire less than five years): *Acacia* various *aneura* tall open shrubland over, *Triodia pungens* hummock grassland; Woodland Flats 3 - Mulga grove/intergroves: *Acacia ayersiana*, *Acacia* various *aneura* tall open shrubland over *Eremophila forrestii*, *latrobei* scattered shrubs over *Aristida contorta*, *Enneapogon caerulescens* very open tussock grassland; 4 - Mulga Woodland: *Acacia* various *aneura* tall open scrub over *Eremophila forrestii*, *Rhagodia* sp. Hamersley, *Sida* sp. unisexual shrubland over *Aristida contorta* scattered tussock grass; 5 - Acacia Woodland: *Acacia ayersiana*, *Acacia* various *aneura* tall open scrub over *Aristida contorta*.	Hamersley Iron is proposing to clear up to 4 hectares of native vegetation within a boundary of 65.7 hectares (Pilbara Iron, 2007). The application area is located approximately 36 kilometres north-west of Newman (GIS Database). The proposed clearing is for the purpose of mineral exploration which will involve the creation of access tracks and exploration drilling. Clearing will be done using the raised blade technique where practicable or scrub rake level terrain. Where already cleared tracks require maintenance, the track may be graded using blade down (Pilbara Iron, 2007).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994). To Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).	The vegetation descriptions were derived from descriptions by Pilbara Iron (2007).

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposal is not likely to be at variance to this Principle

The application areas are located within the Hamersley subregion of the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). This subregion generally consists of mountainous areas of Proterozoic sedimentary ranges and plateaux, dissected by gorges (basalt, shale and dolerite) (Kendrick, 2001). The Hamersley subregion generally contains mulga low woodland over bunch grasses on fine textured soils in valley floors, and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges (Kendrick, 2001).

The vegetation within the application areas consists of Beard Vegetation Association 18, which is considered both common and widespread throughout the Pilbara region, with approximately 100% of this pre-European vegetation type remaining (GIS Database; Shepherd, 2007).

According to available databases, no Declared Rare Flora (DRF) or Priority Flora species occur within the application areas (GIS Database).

A flora survey was conducted over the application areas and surrounding vegetation in July 2007 by a botanist from Biota and a botanical officer from Pilbara Iron (Pilbara Iron, 2007). A total of 109 flora species from 56 genera belonging to 24 families were recorded during the vegetation survey (Pilbara Iron, 2007). The total number of flora species recorded for the application areas are within the expected range for an area of this size in the locality, and is not considered to represent high species richness (Pilbara Iron, 2007). The condition of the vegetation within the application areas was deemed to be 'Very Good' to 'Excellent' on the Keighery scale (1994) due to the lack of disturbance within the application areas.

No DRF, Threatened Ecological Communities or Threatened Fauna Species were noted across the application areas (GIS Database; Pilbara Iron, 2007). One Priority Flora species (Rhagodia sp. Hamersley) was recorded during the flora survey; however it was located outside the application areas (Pilbara Iron, 2007).

The introduced flora species *Bidens bipinnata* (Bipinnate Beggartick) was recorded twice in the vegetation survey area (Pilbara Iron, 2007). *Bidens bipinnata* is not listed as a declared weed by the Department of Agriculture and Food. Care must be taken to ensure that the proposed clearing activities do not spread introduced species to non infested areas. Should the permit be granted, it is recommended that the appropriate conditions be imposed on the permit for the purpose of weed management.

From a fauna perspective, no detailed surveys have been undertaken to measure the species richness of the application areas; however, fauna habitats were assessed at the time of the botanical survey (Pilbara Iron, 2007). No unique, restricted, or fauna specific habitat types were observed during the botanical survey (i.e. caves, isolated sand dunes, roosting sites, wetlands, creek bed burrowing areas, Pebble-mound Mouse mounds) (Pilbara Iron, 2007).

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

Methodology

Keighery (1994)
Kendrick (2001)
Pilbara Iron (2007)
Shepherd (2007)
GIS Databse:
-Declared Rare and Priority Flora
-IBRA WA (Regions - Sub Regions)
-Opthalmia 50cm Orthomosaic
-Pre European Vegetation

(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

According to available datasets, there are no known records of threatened fauna within the application areas (GIS Database). No detailed survey has been undertaken to measure the species richness of the application areas; however fauna habitats were assessed at the time of the botanical survey (Pilbara Iron, 2007).

The assessing officer has conducted a search of the Western Australian Museum's online fauna database, centred on the coordinates 23°08'02"S, 119°26'20"E, with a radius of 20 kilometres. Six Mammalian, 27 Avian and 40 Reptilian species have been identified as potentially occurring within the search area (Western Australian Museum, 2010). Of these, two species of conservation significance have previously been recorded within the search area:

Schedule 1 - Fauna that is rare or likely to become extinct, Wildlife Conservation (Specially Protected Fauna) Notice, 2008: *Liasis olivaceus* subsp. *barroni* (Pilbara Olive Python) - listed as 'Vulnerable' under the *Environmental Protection and Biodiversity Conservation Act 1999*;

P4 - Department of Environment and Conservation Priority Fauna List: *Pseudomys chapmani* (Western Pebble-mound Mouse).

There were no unique, restricted, or fauna specific habitat types observed during the survey (i.e. caves, isolated sand dunes, roosting sites, wetlands, creek bed burrowing areas, Pebble-mound Mouse mounds) (Pilbara Iron, 2007). According to Pilbara Iron (2007), available fauna habitat within the study area consisted of open woodland or tall open scrub over a mixture of open tussock and hummock grasses on open plains. These fauna habitats are well represented at a local scale, and while such habitat is likely to host a variety of native fauna, it is unlikely to constitute habitat significant for the continued survival for any local fauna populations (Pilbara Iron, 2007).

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

Methodology
Pilbara Iron (2007)
Western Australian Museum (2010)
GIS Database:
-Threatened Fauna

(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 datasets, there are no known records of Declared Rare Flora (DRF) or Priority Flora species within the application areas (GIS Database). The nearest recorded location of a DRF (*Lepidium catapycnon*) occurs approximately 4 kilometres north-east of the eastern application area (GIS Database).

A Declared Rare and Priority Flora survey was undertaken by a botanist from Biota and a botanical officer from Pilbara Iron during July 2007 (Pilbara Iron, 2007). No species of DRF, Priority Flora or *Environmental Protection and Biodiversity Conservation Act 1999* listed threatened flora were recorded within the application areas (Pilbara Iron, 2007). The Priority flora species *Rhagodia* sp. Hamersley was recorded during the vegetation survey in mulga woodland in the central northern part of the study area (Pilbara Iron, 2007); however, this was located outside the proposed clearing.

Rhagodia sp. Hamersley is common and widespread in Mulga woodland habitats and the proposed clearing is not likely to adversely impact the local occurrence of this species (Florabase, 2010; Pilbara Iron, 2007).

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

Methodology
Florabase (2010)
Pilbara Iron (2007)
GIS Database:
-Declared Rare 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

There are no Threatened Ecological Communities (TEC's) within the application areas (GIS Database). The closest TEC is located approximately 26 kilometres north-west of the application area (GIS Database).

Pilbara Iron (2007) reports that no TEC's or Priority Ecological Communities were identified within the Hope Downs survey area during the botanical survey.

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

Methodology
Pilbara Iron (2007)
GIS Database:
-Threatened Ecological Sites Properties
-Threatened Ecological Sites Buffered Properties

(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 areas are located within the Pilbara Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Shepherd (2007) report that approximately 99.95% of the pre-European vegetation still exists in the Pilbara Bioregion. The vegetation in the application areas is broadly mapped as Beard Vegetation Association 18: Low woodland; mulga (*Acacia aneura*) (Kendrick, 2001). According to Shepherd (2007) there is approximately 100% of this vegetation type remaining in the Pilbara Bioregion and the State (see table below).

According to the Bioregional Conservation Status of Ecological Vegetation Classes the conservation status for Beard Vegetation Association 18 within the Pilbara Bioregion is of 'Least Concern' (Department of Natural Resources and Environment, 2002).

Although several large scale mining operations are located within a 50 kilometre radius of the application areas, the Pilbara Bioregion remains largely uncleared (GIS Database). As a result the conservation of the vegetation associations within the bioregion is not likely to be impacted upon by the proposal.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Pilbara	17,804,188	17,794,647	~99.95	Least Concern	6.32
Beard veg assoc. – State					
18	19,892,305	19,890,195	~100	Least Concern	2.1
Beard veg assoc. – Bioregion					
18	676,557	676,557	~100	Least Concern	16.8

* Shepherd (2007)
** 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)
Kendrick (2001)
Shepherd (2007)
GIS Database:
-IBRA WA (Regions - Sub Regions)
-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 GIS Databases there are no wetlands or watercourses within the application areas (GIS Database). Analysis of aerial photography also suggests that there are no wetlands or watercourses within the application areas (GIS Database).

According to Pilbara Iron (2007), the study area was not found to contain any native vegetation associated with a watercourse or wetland.

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

Methodology

Pilbara Iron (2007)
GIS Database:
-Hydrography, Linear
-Opthalmia 50cm Orthomosaic

(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

According to the Department of Agriculture's Technical Bulletin No. 92 'An inventory and condition survey of the

rangelands of the Pilbara region, Western Australia', the application areas are comprised of the Boolgeeda Land System and Wannamunna Land System (GIS Database; Van Vreeswyk et al., 2004).

The Boolgeeda Land System is described as stony lower slopes and plains below hill systems supporting hard and soft spinifex grasslands and mulga shrublands (Van Vreeswyk et al., 2004). An analysis of aerial photography for the application areas reveals it is most likely to occur on the landform units 'Stony slopes and upper plains' and 'Stony lower plains' (GIS Database; Van Vreeswyk et al., 2004). The vegetation of the Boolgeeda Land System is generally not prone to degradation and the system is not susceptible to erosion (Van Vreeswyk et al., 2004).

The Wannamunna Land System is described as hardpan plains and internal drainage tracts supporting mulga shrublands and woodlands (and occasionally eucalypt woodlands) (Van Vreeswyk et al., 2004). This system generally has a low susceptibility to erosion (Van Vreeswyk et al., 2004). An analysis of aerial photography reveals the application areas are most likely to fall within the 'Stony plains' and 'Hardpan plains' landform units (GIS Database; Van Vreeswyk et al., 2004). The soils of these land units (red loamy earths, red-brown hardpan shallow loams) are not susceptible to erosion due to a surface mantle of pebbles of ironstone and other rocks (Van Vreeswyk et al., 2004).

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

Methodology Van Vreeswyk et al. (2004)
GIS Database:
-Opthalmia 50cm Orthomosaic
-Rangeland Land Sytem 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 areas are not situated within a Department of Environment and Conservation managed conservation area (GIS Database). The nearest conservation estate is Karijini National Park, which is situated approximately 86 kilometres west of the western application area (GIS Database). Based on the distance between the proposal and the nearest conservation area, the proposed clearing is not likely to impact on the conservation value of Karijini National Park.

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 areas are not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

The application areas are located within a *Rights in Water Irrigation Act* (RIWI Act), *1914* Groundwater Area (GIS Database). The proponent is required to obtain a Beds and Banks Permit in order to extract groundwater in this area.

The application areas are located within the Pilbara Groundwater Area (GIS Database). Any extraction of groundwater in this area will require a groundwater licence. The groundwater salinity within the application areas are approximately 500 - 1000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). This is considered to be potable water. Given the size of the area to be cleared (four hectares) compared to the size of the Hamersley Groundwater Province (10,166,832 hectares) (GIS Database), the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.

There are no known groundwater dependent ecosystems within the application areas (GIS Database). The proposed clearing is not likely to occur in a location, or to an extent whereby an impact to groundwater is likely to occur (Pilbara Iron, 2007).

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

Methodology Pilbara Iron (2007)
GIS Database:
-Groundwater Provinces
-Groundwater Salinity, Statewide
-Hydrography, Linear
-Potential Groundwater Dependent Ecosystems

-Public Drinking Water Source Areas
-RIWI Act, Groundwater 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 areas are located in an arid region where the average annual evaporation rate greatly exceeds the average annual rainfall (BoM, 2010). Any surface water resulting from rain events is expected to be relatively short-lived (ANRA, 2007). There are no watercourses or wetlands within the application areas (GIS Database).

Natural flood events do occur in the Pilbara region following cyclonic activity and heavy rainstorms. However, the proposed clearing is not expected to increase the incidence or intensity of such events given the size of the area to be cleared (4 hectares), in relation to the Fortescue River Upper catchment area (2,975,192 hectares) (GIS Database).

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

Methodology

ANRA (2007)
BoM (2010)
GIS Database:
-Hydrographic Catchments - Catchments
-Hydrography, Linear

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

Comments

There is one Native Title Claim (WC99/004) over the areas under application (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the tenements have been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

According to available databases there are no known Aboriginal Sites of Significance within the application areas (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.

There were no submissions received during the public comments period.

Methodology

GIS Database:
-Aboriginal Sites of Significance
-Native Title Claims

4. Assessor's comments

Comment

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

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

5. References

ANRA (2007) Australian Natural Resources Atlas: Rangelands Overview; Pilbara. Available online from: http://www.anra.gov.au/topics/rangelands/overview/wa/ibra-pil.html Last accessed 19 February 2010.

BoM (2010) Bureau of Meteorology. Climate statistics for Australian locations, Summary statistics for Newman. http://www.bom.gov.au/climate/averages/tables/cw_007151.shtml Last accessed 19 February 2010.

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.

Florabase (2010) The Western Australian Flora - *Rhagodia* sp. Hamersley. Department of Environment and Conservation, Western Australia. Available online from: http://www.australianwildlife.org/Wildlife-and-Ecosystems/Wildlife-Profiles/Birds/Australian-Bustard.aspx Last accessed 19 February 2010.

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

WA (Inc). Nedlands, Western Australia.
Kendrick, P. (2001) Pilbara (PIL3 - Hamersley subregion). In a Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, pp 568-580.
Pilbara Iron (2007) Botanical Survey Work for Rhodes Ridge/Arrowhead - Pamelia - RTE target drilling AR_07_02209. Information for assessing officer, Native Vegetation Assessment Branch, Department of Mines and Petroleum. Rio Tinto, 2009.
Shepherd, D.P. (2007). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A., and Hennig, P. (2004) Technical Bulletin: An inventory and condition survey of rangelands in Pilbara Region, Western Australia, No 92. Department of Agriculture, Western Australia.
Western Australian Museum (2010) NatureMap - Mapping Western Australia's Biodiversity - Department of Environment and Conservation. Available online from: http://naturemap.dec.wa.gov.au/default.aspx Last accessed 19 February 2010.

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.