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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4231/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Robe River Mining Co Pty Ltd**

1.3. Property details

Property: *Iron Ore (Cleveland Cliffs) Agreement Act 1964*, Special Lease for Mining Operations 3116/4622, Document I 123390 L, Lot 63 on Deposited Plan 54397;
Iron Ore (Cleveland Cliffs) Agreement Act 1964, Special Lease for Mining Operations 3116/4623, Document I 123396 L, Lot 65 on Deposited Plan 241547
Local Government Area: Shire of Roebourne
Colloquial name: Cape Lambert Infrastructure

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.2		Mechanical Removal	Building Construction and Associated Infrastructure

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 24 March 2011

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). **157:** Hummock grasslands, grass steppe; hard spinifex, *Triodia wiseana*. Several flora and vegetation surveys have been undertaken over the application area and the surrounding Cape Lambert area. Vegetation mapping of the application area was conducted by Biota Environmental Services (Biota) in October 2007 and March 2008 (Biota, 2008), and January 2010 (Biota, 2010a) as part of larger surveys. Rio Tinto Iron Ore (RTIO) conducted additional vegetation mapping over the application area in October 2010 (RTIO, 2010). Three vegetation types were identified within the application area, as well as a unit being assigned for heavily disturbed areas. The broad landform that each vegetation type occurred in was also recorded. The vegetation types are listed below with the landform in brackets: **AiAcApyAbTw (Rocky and stony slopes) -** *Acacia inaequilatera*, *A. coriacea* subsp. *pendens* scattered tall shrubs over *A. pyrifolia*, *A. bivenosa* scattered shrubs over *Triodia wiseana* hummock grassland. **CP (Flat coastal plains) -** Open shrubland	Robe River Mining Co Pty Ltd has applied to clear up to 1.2 hectares, within an application area of approximately 8.9 hectares, for the purpose of construction of a building and its associated infrastructure. The construction of a building, water pipeline, fibre optic conduits and other related infrastructure is part of the Cape Lambert port expansion development. Cape Lambert is approximately 5 kilometres north of Wickham in the Pilbara region. Vegetation will be cleared using dozers with their blade down. Vegetation will be stockpiled and used in rehabilitation.	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).	The vegetation condition was assessed by botanists from Biota and RTIO. The vegetation conditions were described using a scale based on Trudgen (1988) and have been converted to the corresponding conditions from the Keighery (1994) scale.

dominated by *Acacia stellaticeps* or *A. bivenosa* over *Scaevola spinescens*, *Rhagodia eremaea* scattered low shrubs over *Triodia epactia* hummock grassland and *Cenchrus ciliaris* tussock grassland.

RH (Rocky slopes) - Rocky hillcrests and upper slope habitats inland from the coast with *Triodia wiseana* and/or *Triodia epactia* hummock grassland.

Disturbed - Disturbed areas mostly cleared of native vegetation.

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The application area occurs within the Chichester subregion of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by plains supporting a shrub steppe of *Acacia inaequilatera* over *Triodia wiseana* hummock grasslands, while *Eucalyptus leucophloia* tree steppes occur on ranges (CALM, 2002).

The vegetation within the application area is broadly mapped as Beard vegetation association 157, which is relatively common with approximately 99.8% of its pre-European vegetation extent remaining (Shepherd, 2009; GIS Database). Vegetation mapping of the application area was conducted by Biota and RTIO botanists in October 2007, March 2008, January 2010 and October 2010 as part of larger surveys (Biota 2008a, 2010; RTIO, 2010). Three vegetation types were identified within the application area and these vegetation types are relatively common to the coastal region and well represented outside the survey areas (RTIO, 2010).

A comprehensive flora and vegetation survey was undertaken over the proposed Cape Lambert Port B development, of which the application area is in close vicinity, in October 2007 and March 2008 by Biota (2008a). A total of 183 taxa of native vascular flora from 101 genera belonging to 45 families were recorded from the 602 hectare study area (Biota, 2008a). Much lower species diversity would be expected from the small 8.9 hectare application area, with only three of the total nine vegetation types found within the application area (Biota, 2008a).

Seven introduced flora species were recorded from the Cape Lambert Port B flora and vegetation survey. These weed species were Buffel Grass (*Cenchrus ciliaris*), Date Palm (*Phoenix dactylifera*), Kapok (*Aerva javanica*), Pupletop Chloris (*Chloris barbata*), Purslane (*Portulaca oleracea*), Tamarisk (*Tamarix aphylla*) and Three-leaved Chaste Tree (*Vitex trifolia* var. *subtrisecta*) (Biota, 2008a). The presence of weed species lowers the biodiversity value of the application area. Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

No Declared Rare Flora, Priority Flora, Threatened Ecological Communities or Priority Ecological Communities were recorded within the application area (Biota 2008a, 2010; RTIO, 2010; GIS Database).

Based on fauna habitat observations and vegetation mapping, the fauna habitats within the application area consist of:

- Mixed hummock grasslands on rocky hills and outcrops;
- Mixed *Acacia* shrublands over spinifex (*Triodia epactia*/*wiseana*) grasslands on stony plains; and
- Soft spinifex (*Triodia epactia*) hummock grasslands and/or Buffel Grass (*Cenchrus ciliaris*) tussock grasslands on loamy coastal plains (Biota, 2008b; RTIO, 2010; GIS Database).

The habitats within the application area may be utilised by a variety of fauna. However, the habitats have been subject to degradation from historical clearing and close proximity to the port operations (RTIO, 2010). No significant fauna habitats such as caves, waterholes, significant creek lines, gorges, large tree hollows or termite mounds were observed within the application area (RTIO, 2010). It is likely that equal or higher quality vegetation and fauna habitats would exist throughout the surrounding area, and Pilbara region (RTIO, 2010).

There is existing disturbance within the application area from the Cape Lambert port, rail and associated infrastructure, roads and tracks (Biota, 2008a; RTIO, 2010). Over half of the application area has been mapped as areas completely cleared or comprising little to no vegetative cover through historical clearing, or have been significantly invaded by weeds, particularly Buffel Grass (RTIO, 2010). It is not likely that the area to be cleared comprises a high level of biological diversity in a regional context.

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

Methodology

Biota (2008a)
Biota (2008b)
Biota (2010)
CALM (2002)
RTIO (2010)
Shepherd (2009)
GIS Database:
- Cape Lambert 20 cm Orthomosaic Landgate 2005
- Declared Rare and Priority Flora List
- IBRA WA (Regions - Sub Regions)
- 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

A two phase seasonal fauna survey was undertaken by Biota in the Cape Lambert Port B development area in October and December 2007, and March 2008 (Biota, 2008b). The fauna survey area was adjacent to the current application area. The fauna habitats of an additional area around Cape Lambert, including the application area, were recorded by a RTIO botanist in October 2010 (RTIO, 2010).

A variety of fauna habitats were recorded as part of the larger surveys but the majority of these are not applicable to the current application area. After comparing the fauna habitats recorded within the survey areas to the vegetation mapping of the application area and recent orthophotos, the application area is likely to comprise the following fauna habitats:

- Mixed hummock grasslands on rocky hills and outcrops;
- Mixed *Acacia* shrublands over spinifex (*Triodia epactia*/*wiseana*) grasslands on stony plains; and
- Soft spinifex (*Triodia epactia*) hummock grasslands and/or Buffel Grass (*Cenchrus ciliaris*) tussock grasslands on loamy coastal plains (Biota, 2008b; RTIO, 2010; GIS Database).

The small size of the application area (8.9 hectares) and its distance from the coast means that potentially significant Pilbara coastal habitats such as mangroves and coastal dunes are not contained within the application area. No significant fauna habitats such as caves, waterholes, significant creeklines, gorges, large tree hollows or termite mounds were observed within the survey area (RTIO, 2010) and, therefore, none were found within the application area.

A total of 120 vertebrate species representing 45 families were recorded from the Cape Lambert Port B Development fauna survey (Biota, 2008b). This species composition was recorded from a large 605 hectare survey area, compared to the current 8.9 hectare application area. The primary and secondary dune habitats yielded the greatest species richness from the survey for both herpetofauna and avifauna (Biota, 2008b), and the application area does not contain primary or secondary dunes.

The Priority 1 species *Lerista nevinae* is a small skink that inhabits coastal sand dunes in the vicinity of Cape Lambert (RTIO, 2010). The vegetation and landform of the application area has not been mapped as coastal dunes (Biota, 2008b; RTIO, 2010) and therefore would not provide suitable habitat for this locally endemic species.

The relatively small scale of the proposed clearing and the lack of specialised habitat suggests that the clearing presents a low risk of significantly impacting any conservation significant species. The fauna habitats identified within the application area are not considered as necessary for the on-going maintenance of any threatened fauna. It is likely that equal or higher quality vegetation and fauna habitats would exist throughout the surrounding area, and Pilbara region (RTIO, 2010).

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

Methodology

Biota (2008b)
RTIO (2010)
GIS Database:
- Cape Lambert 20 cm Orthomosaic Landgate 2005

(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 known records of Declared Rare Flora (DRF) within the application area (GIS Database).

Flora and vegetation surveys of the application area and the surrounding Cape Lambert area were conducted by Biota and RTIO botanists in October 2007, March 2008, January 2010 and October 2010. No DRF species

were recorded within the application area or the surrounding survey areas (Biota, 2008a, 2010; RTIO, 2010).

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

Methodology Biota (2008a)
Biota (2010)
RTIO (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 available databases revealed there are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest recorded TEC, *Themeda* grasslands on cracking clays, is located 165 kilometres south-south-east of the application area (GIS Database).

No TECs were identified during the flora and vegetation surveys by Biota and RTIO botanists (Biota, 2008a, 2010; RTIO, 2010).

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

Methodology Biota (2008a)
Biota (2010)
RTIO (2010)
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 clearing application area falls within the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion in which approximately 99.9% of the pre-European vegetation remains (see table) (Shepherd, 2009; GIS Database). This gives it a conservation status of "Least Concern" according to the Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment, 2002).

The vegetation of the clearing application area has been broadly mapped as Beard vegetation association 157 "Hummock grasslands, grass steppe; hard spinifex, *Triodia wiseana*" (GIS Database). According to Shepherd (2009) approximately 99.8% of Beard vegetation association 157 remains at the state level and 99.9% remains at a bioregional level. This vegetation association would be given a conservation status of "Least Concern" at both a state and bioregional level (Department of Natural Resources and Environment, 2002).

The vegetation under application is not a remnant of 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	17,785,001	~99.9	Least Concern	6.3
Beard Veg Assoc. – State					
157	502,729	501,514	~99.8	Least Concern	18.0
Beard Veg Assoc. – Bioregion					
157	198,634	198,519	~99.9	Least Concern	5.7

* 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 Resouces and Environment (2002)
Shepherd (2009)
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 at variance to this Principle

According to available GIS Databases there are no permanent watercourses or wetlands within the application area (GIS Database). However, the application area does contain several minor ephemeral creeks (GIS Database).

Based on the above, the proposed clearing is at variance to this Principle. However, similar riparian vegetation occurs over much of the Pilbara coastal plain and the vegetation within the application area is not considered restricted or significant wetland habitat (RTIO, 2010). Also, the small area of proposed clearing is unlikely to have any significant impact on any watercourse or wetland.

Methodology RTIO (2010)
GIS Database:
- Hydrology, Linear

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments

Proposal is not likely to be at variance to this Principle

According to available datasets the application area is within the Rocklea Land System (GIS Database).

The Rocklea Land System is characterised by basalt hills, plateaux, lower slopes and minor stony plains supporting hard spinifex (and occasionally soft spinifex) grasslands (Van Vreeswyk et al., 2004). The component units found within the surrounding Cape Lambert area include hills, ridges, plateaux and upper slopes, stony plains and interfluves and lower slopes (RTIO, 2010). This system has a low risk of erosion.

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

Methodology RTIO (2010)
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 proposed clearing is not located within a conservation reserve (GIS Database). The nearest known conservation areas are on islands off the coast (GIS Database) and the application area is unlikely to provide any ecological linkage to these. The nearest mainland conservation area is Millstream Chichester National Park, located approximately 59 kilometres south of the application area (GIS Database). At this distance the proposed clearing is unlikely to impact on the environmental values of the National Park.

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

Methodology GIS Database:
- DEC Tenure
- Register of National Estate (Status)

(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). The nearest PDWSA is Roebourne Water Reserve, which is approximately 16 kilometres to the south (GIS Database).

The groundwater salinity within the application area is approximately 1,000 - 3,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). Given the size of the area to be cleared (1.2 hectares) compared to the size of the Pilbara Groundwater Province (5,557,665 hectares) (GIS Database), the proposed clearing is not likely to cause salinity levels to alter significantly.

The ephemeral drainage lines on stony plains are inundated sporadically and only hold water for short periods after large rainfall events. During these inundation periods the sediment load in such drainage lines are already typically high and therefore any increase to the sediment load caused by the clearing is likely to be negligible (RTIO, 2010). The small amount of proposed clearing is unlikely to cause deterioration in the quality of surface water.

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

Methodology RTIO (2010)
GIS Database:
- Groundwater Provinces
- Groundwater Salinity, Statewide
- Public Drinking Water Source Areas (PDWSAs)

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

Comments

Proposal is not likely to be at variance to this Principle

The application area experiences variable annual rainfall with most precipitation occurring during the summer cyclone season (RTIO, 2010). The average annual rainfall is 287.8 mm, recorded from the weather station at nearby Roebourne (BOM, 2011). The area experiences a high average pan evaporation rate of 3500 mm, measured at Port Hedland, which exceeds the average annual rainfall by more than twelve times (Luke et al., 2003 as cited in RTIO, 2010). Local flooding does occur after large seasonal rainfall events, however, clearing within the application area is unlikely to exacerbate or increase the incidence or intensity of flooding (RTIO, 2010).

The application area is located within the Coastal catchment area of the Port Hedland Coast basin (GIS Database). Given the size of the area to be cleared (1.2 hectares) in relation to the size of the catchment area (744,301 hectares) (GIS Database), the proposed clearing is not likely to increase the potential for flooding on a local or catchment scale.

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

Methodology BOM (2011)
RTIO (2010)
GIS Database:
- Hydrographic Catchments - Catchments

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 numerous registered Aboriginal Sites of Significance in the vicinity of 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 28 February 2011 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Determined by the Federal Court

4. References

Biota (2008a) Cape Lambert Port B Development: Flora and Vegetation Survey. Report Prepared by Biota Environmental Services for Pilbara Iron Pty Ltd, July 2008.

Biota (2008b) Cape Lambert Port B Development: Seasonal Fauna Survey. Report Prepared by Biota Environmental Services for Pilbara Iron Pty Ltd, July 2008.

Biota (2010) Cape Lambert to Emu Siding Additional Vegetation Mapping. Report Prepared by Biota Environmental Services for Rio Tinto Iron Ore, March 2010.

BOM (2011) Bureau of Meteorology Website - Climate Statistics for Australian Locations, Summary Statistics ROEBOURNE. http://www.bom.gov.au/climate/data/ (Accessed 14 March 2011).

Department of Conservation and Land Management (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions.

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.

RTIO (2010) Botanical Survey of the 33 kV Power Line and Site Access Road at Cape Lambert: Native Vegetation Clearing Permit Supporting Report. Report by Rio Tinto Iron Ore, October 2010.

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.

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.