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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4056/1
Permit type: Purpose Permit

1.2. Proponent details

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

1.3. Property details

Property: *Iron Ore (Robe River) Agreement Act 1964*, Lease K058441, Lot 500 on Deposited Plan 53285; *Iron Ore (Robe River) Agreement Act 1964,* Section 91 Licence 00338-2008_3_70 under the *Land Administration Act 1997*
Local Government Area: Shire of Roebourne
Colloquial name: Cape Lambert Operations

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
15		Mechanical Removal	Removal of power poles/lines and lattice towers and access tracks

1.5 Decision on application

Decision on Permit Application: Grant
Decision Date: 9 December 2010

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description Beard vegetation associations have been mapped at a 1:250,000 scale for the whole of Western Australia. Two Beard vegetation associations have been mapped within the applicaiton area (GIS Database; Shepherd, 2007).

43: Low forest; mangroves (Kimberley) or thicket; mangroves (Pilbara); and
157: Hummock grasslands, grass steppe; hard spinifex, *Triodia wiseana*.

The application area was surveyed by Western Botanical between May and June 2008 (Western Botanical, 2008). The following vegetation types were identified within the application area:

AcoAcTe: *Acacia colei* var. *colei* and *Acacia coriacea* subsp. *coriacea* high open shrubland over *Triodia epactia* open hummock grassland;

AcoGpAcCc: *Acacia colei* var. *colei*, *Grevillea pyramidalis* subsp. *leucadendron* and *Acacia coriacea* subsp. *coriacea* high open shrubland over **Cenchrus ciliaris* tussock grassland;

AcTe: *Acacia coriacea* subsp. *coriacea* open shrubland over *Triodia epactia* hummock grassland and **Cenchrus ciliaris* tussock grassland;

AstTe: *Acacia stellaticeps* low open shrubland over *Triodia epactia* open hummock grassland on a sandy alluvial plain;

AstTs: *Acacia stellaticeps* low open shrubland over *Triodia schinzii* hummock grassland;

AtTe: *Acacia trudgeniana* scattered tall shrubs over *Triodia epactia* open hummock grassland;

CcSv: **Cenchrus ciliaris* and *Sporobolus virginicus* tussock grassland;

Mte: *Melaleuca lasiandra* high shrubland over *Triodia epactia* hummock grassland and **Cenchrus*

ciliaris open tussock grassland;

AbCc: *Acacia bivenosa* open shrubland over **Cenchrus ciliaris* open tussock grassland;

AaCc: *Acacia ampliceps* high shrubland over **Cenchrus ciliaris* very open tussock grassland and/or *Triodia epactia* very open hummock grassland on sandy coastal dunes;

AaAbTe: *Acacia ampliceps* and *Acacia bivenosa* open shrubland over *Triodia epactia* open hummock grassland;

AbActwTe: *Acacia bivenosa* and *Acacia coriacea* subsp. *coriacea* scattered tall shrubs over *Stemodia grossa* very open herbs with *Triodia epactia* and *Triodia wiseana* very open hummock grassland;

AbTe: *Acacia bivenosa* shrubland over *Triodia epactia* hummock grassland;

AcAtTe: *Acacia coriacea* subsp. *coriacea* and *Acacia trudgeniana* scattered tall shrubs over *Triodia epactia* hummock grassland;

AcGpTeTs: *Acacia coriacea* subsp. *coriacea*, *Acacia sabulosa* and *Grevillea pyramidalis* subsp. *leucadendron* high open shrubland over *Triodia epactia* and *Triodia schinzii* hummock grassland;

AiTe: *Acacia inaequilatera* scattered shrubs over *Triodia epactia* hummock grassland;

AiTw: *Acacia inaequilatera* scattered shrubs over *Triodia wiseana* hummock grassland;

GpTw: *Grevillea pyramidalis* subsp. *leucadendron* scattered shrubs over *Triodia wiseana* hummock grassland;

Te: *Triodia epactia* hummock grassland;

TeTs: No description;

Tw: *Triodia wiseana* hummock grassland, occasionally with *Acacia bivenosa*, *Acacia inaequilatera* or *Grevillea pyramidalis* subsp. *leucadendron* scattered shrubs; and

Cc: **Cenchrus ciliaris* tussock grassland (Western Botanical, 2008).

An additional three vegetation communities within the application area were previously defined by Biota Environmental Sciences:

SD: Low-lying saline drainage with *Tecticornia halocnemoides* subsp. *tenuis* and *Tecticornia indica* subsp. *leiostachya* low samphire shrubland or open heath with *Frankenia ambita* and *Muellerolimon salicorniaceum* low open shrubland;

SDu: Secondary dunes with *Acacia coriacea* subsp.*coriacea* tall shrubland over *Crotalaria cunninghamii*, *Scaevola sericophylla* and *Scaevola spinescens* low open shrubland over *Triodia epactia* hummock grassland and **Cenchrus ciliaris* tussock to open tussock grassland; and

RH: Rocky hillcrests and upper slope habitats inland from the coast with *Triodia wiseana* and/or *Triodia epactia* hummock grassland (Western Botanical, 2008).

NB. * Denotes introduced species

Clearing Description

Robe River Mining Company Pty Ltd is proposing to clear up to 15 hectares of native vegetation for the removal of power poles/lines, lattice towers and access tracks.

Vegetation will be cleared using a blade down technique and topsoil will be stockpiled and used in rehabilitation.

Vegetation Condition Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994);

To

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

Comment The application area is located in the Pilbara region of Western Australia and is situated approximately 2.5 kilometers north of Wickham (GIS Database).

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 (PIL1) sub-region of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This sub-region is characterised by undulating Archaean granite and basalt plains include significant areas of basaltic ranges (CALM, 2002). Broadly, the plains support a shrub steppe characterised by *Acacia inaequilatera* over *Triodia wiseana* (formerly *Triodia pungens*) hummock grasslands, while *Eucalyptus leucophloia* tree steppes occur on ranges (CALM, 2002).

A vegetation survey of the application area by Western Botanical identified 22 vegetation communities occurring within the application area (Western Botanical, 2008). A further 3 communities within the application area have been described by Biota Environmental Sciences (Western Botanical, 2008). During these vegetation surveys, 205 vascular plant taxa from 107 genera and 48 families were recorded within the application area and adjacent areas (Western Botanical, 2008). The number of flora species recorded within the application area is considered diverse. Given the amount of the application area that is already disturbed and the close proximity to disturbed areas it is unlikely that the proposed clearing will significantly result in a significant reduction in biodiversity. No Declared Rare Flora (DRF), Priority Flora, Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) have been defined within the survey area (Western Botanical, 2008).

Eight introduced vascular plant taxa were recorded within the application area (Western Botanical, 2008). Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. This in turn can lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. None of these species are listed as 'Declared Plant' species under the *Agriculture and Related Resources Protection Act 1976* by the Department of Agriculture and Food. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Two fauna habitats were identified within the application area:

1. Open Acacia or Grevillea shrublands over *Triodia wiseana* or *Triodia epactia* hummock grasses on stony hills; and
2. Open shrublands of mainly Acacia species over Soft Spinifex (*Triodia epactia* and/or *Triodia schinzii*) hummock grasses or mixed tussock grasses on sandy or silty alluvial plains (Western Botanical, 2008).

These primary habitats are considered widespread and abundant in the Cape Lambert locality (Western Botanical, 2008). Shepherd (2007) reports that 84.43% and 99.94% of Beard associations 43 and 157 remain within the Pilbara Bioregion respectively. It is therefore considered unlikely that the proposed clearing will have a significant impact on the fauna habitat locally or regionally.

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

Methodology

CALM (2002)
Western Botanical (2008)
GIS Database:
- IBRA WA (Regions - Sub - Regions)

(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 Level 1 (EPA, 2004) fauna survey of the application area was conducted in 2008 by Biota Environmental Sciences (Western Botanical, 2008). This survey identified 19 fauna species of conservation significance, including five Schedule 1 species (Northern Quoll, Brush-tailed Mulgara, Banded Hare-Wallaby, Pilbara Orange Leaf-nosed Bat and Pilbara Oliva Python), and one Schedule 4 species (Peregrine Falcon) which may potentially occur within the application area. The habitats identified by Western Botanical are not the preferred habitats of any of these species. While there is the potential for Pilbara Orange Leaf-nosed Bat and the Peregrine Falcon to forage within the application area, given the size and nature of the clearing it is unlikely the proposed clearing will alter the conservation status of either species.

In 2008 Western Botanical conducted a vegetation survey of the application area which identified two fauna habitats:

1. Open Acacia or Grevillea shrublands over *Triodia wiseana* or *Triodia epactia* hummock grasses on stony hills; and
2. Open shrublands of mainly Acacia species over soft Spinifex (*Triodia epactia* and/or *Triodia schinzii*) hummock grasses or mixed tussock grasses on sandy or silty alluvial plains.

These primary habitats are considered widespread and abundant in the Cape Lambert locality (Western Botanical, 2008). Shepherd (2007) reports that 84.43% and 99.94% of Beard associations 43 and 157 remain within the Pilbara Bioregion respectively. It is therefore considered unlikely that the proposed clearing will have a significant impact on the fauna habitat locally or regionally.

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

Methodology EPA (2004)
Western Botanical (2008)

(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 GIS Databases there are no known records of Declared Rare Flora (DRF) within the application area (GIS Database).

A flora survey was conducted by Western Botanical between May and September 2008 (Western Botanical, 2008). No DRF plant taxa were recorded within the application area (Western Botanical, 2008).

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

Methodology Western Botanical (2008)
GIS Database:
- Declared Rare and Priority Flora List

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

Comments **Proposal is not likely to be at variance to this Principle**
According to the available GIS databases there are no known records of Threatened Ecological Communities (TEC's) within the application area (GIS Database).

The nearest TEC, Themeda grassland on cracking clay, is approximately 160 kilometres south of the application area.

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 is located within the Pilbara bioregion of the Interim Biogeographical Regionalisation for Australia (IBRA) (GIS Database). Shepherd (2007) reports that approximately 99.5% of the pre-European vegetation remains in the state and in the Pilbara region.

The vegetation in the application area is broadly mapped as Beard vegetation associations:

43: Low forest; mangroves (Kimberley) or thicket; mangroves (Pilbara); and
157: Hummock grasslands, grass steppe; hard spinifex, *Triodia wiseana* (GIS Database; Shepherd, 2007).

According to Shepherd (2007) approximately 84.43% and 99.94% of the Beard associations 43 and 157, respectively, remain within the Pilbara bioregion (see table below).

	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 vegetation associations - State					
43	218,170	179,517	82.3	Least Concern	20.4
157	502,729	501,514	99.76	Least Concern	17.95
Beard vegetation associations - Bioregion					
43	15,058	12,712	84.43	Least Concern	0
157	198,633	198,518	99.94	Least Concern	5.7

* 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)
Shepherd (2007)
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 GIS Databases, there are no permanent wetlands or watercourses within the application area, however there are several minor ephemeral watercourses within the application area (GIS Database).

Based on vegetation mapping conducted by Western Botanical (2008) two of the twenty five vegetation associations found within the application area are associated with drainage areas:

AaAbTe: *Acacia ampliceps* and *Acacia bivenosa* open shrubland over *Triodia epactia* open hummock grassland; and

SD: Low-lying saline drainage with *Tecticornia halocnemoides* subsp. *tenuis* and *Tecticornia indica* subsp. *leiostachya* low samphire shrubland or open heath with *Frankenia ambita* and *Muellerolimon salicorniaceum* low open shrubland.

The small size of these vegetation associations within the application area render the proposed clearing of 15 hectares of native vegetation within the larger boundary of 79.8 hectares not likely to significantly impact on the conservation of vegetation growing in association with these watercourses.

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

Methodology Western botanical (2008)
GIS Database:
- Hydrography, linear

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

Comments **Proposal may be at variance to this Principle**

The application area has been surveyed by the Department of Agriculture and Food (Payne, 1992). The application area is comprised of the following land systems:

- Cheerawarra land system- sandy coastal plains and saline scalds, soft Spinifex and buffel grass grasslands. This land system is highly susceptible to wind erosion if vegetation cover is depleted;
- Littoral land system- extensive bare coastal mudflats flanked by mangroves and samphire flats; minor

sandy islands, narrow sandy plains, coastal dunes and beaches. Two units of this land system are susceptible to wind erosion when vegetation is depleted;
  - Unit 1: Coastal dunes, ridges and narrow beaches; and
  - Unit 2: Sandy plains;
- Rocklea land system- rugged basalt hills and plateau remnants with hard Spinifex grasslands. This land system has little erosion hazard; and
- Ruth land system- rocky hills and ridges with hard Spinifex (occasionally soft Spinifex) grasslands. This land system has very low erosion hazard.

The application area intercepts two land system that are moderately to highly susceptible to erosion if the vegetative cover is removed. There is a risk of wind and/or water erosion occurring should these areas remain exposed. Potential erosion impacts as a result of the proposed clearing may be minimised by the implementation of a rehabilitation condition.

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

Methodology Payne (1992)
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 reserve on the mainland is a miscellaneous reserve located approximately 29 kilometres south-west 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:
- 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 the available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

The application area is located within a Rights in Water Irrigation Act 1914 Groundwater Management Area (GIS Database). The proponent is required to obtain permits to abstract groundwater in this area.

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 proposed to be cleared (15 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 within the application area to alter significantly.

The application area is located in a semi-desert-tropical region (CALM, 2002). The average rainfall is approximately 310 millimetres/year and the average evaporation rate is approximately 3,400 millimetres/year (BoM, 2010; GIS Database). No permanent watercourses or drainage channels were located within the application area during the vegetation survey carried out by Western Botanical in 2008. Given this, the proposed clearing is unlikely to impact on the quality of surface water within the application area.

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

Methodology BoM (2010)
CALM (2002)
Western Botanical (2008)
GIS Database:
- Evaportation isopleths
- Groundwater - Provinces
- Groundwater Salinity
- Hydrography, linear
- Public Drinking Water Source Area (PDWSAs)
- 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 area experiences a semi-desert-tropical climate with an average annual rainfall of approximately 310 millimetres recorded from the nearest weather station at Roebourne approximately 12 kilometres south of the application area (BoM, 2010). Rainfall is usually experienced during summer months and can be either cyclonic or thunderstorm events. It is likely that during times of intense rainfall there may be some localised flooding in adjacent areas. Local flooding occurs seasonally within the Pilbara region as a result of cyclonic activity and sporadic thunderstorm events (CALM, 2002). The proposed clearing of 15 hectares within the larger boundary of 79.8 hectares is not likely to significantly alter the intensity of flooding within the application area and surrounding areas.

The application area is located within the Coastal catchment area (GIS Database). However, the size of the area to be cleared (15 hectares) compared to the size of the Coastal Catchment area (744,302 hectare) (GIS Database) is not likely to increase the potential for flooding within the application area, local area or within the catchment (GIS Database).

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

Methodology

BoM (2010)
CALM (2002)
GIS Database:
- Hydrographic Catchments - Catchments

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

Comments

There is one Native Title Claim over the area under application (WC99/014). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the 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 seven 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 8 November 2010 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 Titles Determined

4. References

BoM (2010) BOM Website - Climate Averages by Number, Averages for ROEBOURNE. www.bom.gov.au/climate/averages/tables/cw_007151.shtml (Accessed 17 November 2010).

CALM (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.

EPA (2004) Guidance for the Assessment of Environmental Factors: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia. Guidance Statement No 56. Environmental Protection Authority, Western Australia.

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) An Inventory and Condition Survey of the Roebourne Plains and Surrounds, Western Australia, Department of Agriculture, Western Australia.

Shepherd, D.P. (2007) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

Western Botanical (2008) Cape Lambert Operations Powerline Demolition Corridor: Native Vegetation Clearing Permit Report. Unpublished report prepared for Rio Tinto Iron Ore, December 2008.

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.