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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4355/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Redstone Resources Limited**

1.3. Property details

Property: Exploration Licence 69/2200
Exploration Licence 69/2249
Exploration Licence 69/2339
Local Government Area: Shire of Ngaanyatjarraku
Colloquial name: Baggaley Hills Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 7 July 2011

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

Beard vegetation associations have been mapped for the whole of Western Australia and are useful to look at vegetation in a regional context. Three Beard vegetation associations have been mapped within the application areas (Shepherd, 2009; GIS Database):

Beard vegetation association 18: Low woodland; mulga (Acacia aneura);
Beard vegetation association 19: Low woodland; mulga between sandridges; and
Beard vegetation association 236: Hummock grasslands, shrub steppe; mulga and mallee (Marble Gum) over hard spinifex.

No vegetation surveys have been undertaken over the application areas, therefore the vegetation communities have not been described or mapped for these areas in any further detail than Beard vegetation mapping.

Clearing Description

Redstone Resources Limited has applied to clear up to 0.7 hectares of native vegetation within a total application area of approximately 18,800 hectares for the purpose of mineral exploration. The clearing will comprise of drill pads and temporary access tracks.

The vegetation will be cleared using a dozer with vegetation stockpiled for use in rehabilitation within one month after stockpiling. Existing tracks will be used where possible.

Vegetation Condition

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment

The vegetation condition has been inferred from orthophotos, field photographs and historical land uses classified using the Keighery (1994) scale.

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The application area occurs within the Kintore subregion of the Great Victoria Desert Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The bioregion is characterised by dune fields with playa lakes and lunettes. Vegetation is predominantly marble gum, mulga and yarldarlba over spinifex grassland (CALM, 2002).

The vegetation within the application areas are broadly mapped as Beard vegetation associations 18, 19 and 236 (GIS Database). These vegetation associations are common and widespread throughout the Great Victoria Desert bioregion, with over 99.5% of the pre-European vegetation remaining (Shepherd, 2009; GIS

Database). Aerial photography and a desktop study conducted by EnviroWorks Consulting (2011) suggest that the vegetation types within the application areas are common and widespread in the local area (EnviroWorks Consulting, 2011; GIS Database).

According to available databases there are no known records of Declared Rare Flora, Threatened Ecological Communities or Priority Ecological Communities within the application areas or within a 100 kilometre radius of the application areas (GIS Database). A search on the Department of Environment and Conservation Declared Rare and Priority Flora databases within a 100 kilometre radius of the application areas revealed six Priority flora species: *Calotis latiuscula* (P3), *Eucalyptus sparsa* (P3), *Euphorbia parvicarancula* (P1), *Lythorum paradoxum* (P3), *Menkea lutea* (P1) and *Teucrium grandiusculum* subsp. *grandiusculum* (P2). The level of biological knowledge of the Great Victoria Desert area is relatively low (CALM, 2002). Potential impacts to Priority flora as a result of the proposed clearing may be minimised by the implementation of a flora management condition.

The presence and abundance of weeds in the application area is currently unknown. Weeds Australia (2011) list 63 weed species that are known to occur or have the potential to occur in the Great Victoria Desert. The following seven species are widespread and significant throughout the bioregion: African Boxthorn (*Lycium ferocissimum)*, Blackberry nightshade (*Solanum nigrum*), Caltrop (*Tribulus terrestris*), Common Sowthistle (*Sonchus oleraceus*), Kikuyu grass (*Pennisetum clandestinum*), Kochia (*Bassia scoparia*) and Ruby Dock (*Acetosa vesicaria*) (EnviroWorks Consulting, 2011). 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.

Analysis of aerial imagery and a desktop study of the application areas identified two potential broad fauna habitat types within the application areas: tree steppe and hummock grasslands (EnviroWorks Consulting, 2011; GIS Database). Both are considered to be in 'very good' condition (Keighery, 1994; GIS Database). The deficiency in biological survey data from the area, particularly in regards to fauna, brings a level of uncertainty when assessing the level of biological diversity of the application area. However, the broad-scale vegetation types are common and widespread locally and the surrounding area is largely uncleared. Given the small area proposed to be cleared (0.7 hectares), it is not likely that the proposed clearing will have any significant impact on biodiversity at a regional scale.

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

Methodology

CALM (2002)
EnviroWorks Consulting (2011)
Keighery (1994)
Shepherd (2009)
Weeds Australia (2011)
GIS Database:
- BellRock 1.25m Orthomosaic - Landgate 2002
- Agnes 1.3 Orthomosaic - Landgate 2005
- Pre-European Vegetation
- IBRA WA (regions - subregions)
- 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 may be at variance to this Principle

No targeted fauna surveys were undertaken within the application areas and the fauna habitats present within the application area have not been recorded. The vegetation types of the application areas have been inferred from aerial photography and a desktop flora survey, and broad fauna habitat types may be inferred from these. The major vegetation type can be described as Tree steppe consisting of *Eucalyptus gongylocarpa,* spinifex (*Triodia* sp.) and mallee (*E. kingsmilli* and *E. youngiana*). This Tree steppe gives way to hummock grasslands that are dominated by *Triodia basedownii, Acacia,* Mulga, *Eremophila* and *Santalum* species (EnviroWorks Consulting, 2011). Aerial imagery also illustrates the presence of rocky outcrops and sand plains (GIS Database).

Aerial photography suggests that the described vegetation types are locally common and occur adjacent to the application areas (GIS Database). It could therefore be expected that the main fauna habitats are also common and occur outside of the application area. There are large areas of intact vegetation outside the application areas and the Great Victoria Desert bioregion is largely uncleared, with approximately 99.96% of pre-European vegetation remaining (Shepherd, 2009; GIS Database).

There are 17 fauna species listed as Threatened Species under the *Environment Protection and Biodiversity Conservation Act 1999* or specially protected under Western Australian legislation (*Wildlife Conservation Act 1950*) that are known within a 100 kilometre radius of the application areas in the Kintore subregion (DEC, 2011; EnviroWorks Consulting, 2011; GIS Database). No systematic fauna surveys have been conducted in the Kintore subregion and fauna survey data is sparse, confined to vertebrates, and mostly site specific (CALM, 2002). Therefore data from a large search area is needed to predict the potential conservation significant fauna

species occurring within the application areas.

Many of the 17 conservation significant species are considered highly mobile and/or have a wide distribution so the clearing of 0.7 hectares of native vegetation is unlikely to significantly impact on the species. Several of the species have specific habitat requirements that are not found within the application area, e.g. wetlands. Other species are known mostly from historical records (DEC, 2011) and based on their current distribution the species are not expected to be in the application area or its surrounds. However, the Mulgara (*Dasycercus cristicauda*), Greater Bilby (*Macrotis lagotis*) and Great Desert Skink (*Liopholis kintorei*) are ground-dwelling threatened fauna with limited dispersal abilities and are more likely to be impacted on by any development. The habitat needed for the Mulgara is spinifex (*Triodia*) hummock grassland (Burbidge, 2004) and this vegetation type has been mapped within the application area (EnviroWorks Consulting, 2011). Major habitats that the Bilby occupies include hummock grasslands on sand plains (SPRAT, 2011). The entrance to their burrows is often against a spinifex hummock, termite mound or shrub (Burbidge, 2004) so the application area provides potential habitat for the Bilby. The Great Desert Skink occupies a range of vegetation types, with a major habitat being hummock grasslands with occasional trees such as *Acacia* and *Eucalyptus* species, and sandy plains. It is a communal species that digs complex burrow systems which can have five to 10 entrances (Pavey, 2006; McAplin, 2001). All three species construct burrows that the animals live in during the day (McAplin, 2001; Pavey et al., 2006). Therefore any core habitat, such as burrows, could be considered significant and should be avoided.

The area proposed to be cleared is small (0.7 hectares), spread over a large application area, and there are large amounts of uncleared vegetation in the Great Victoria Desert bioregion. However, there is also very little biological knowledge of the region. The conservation values of the application area in regards to fauna, in particular conservation significant species, are uncertain and cannot be fully understood until on-ground fauna surveys are conducted. Potential impacts to conservation significant fauna as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

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

Methodology

Burbidge (2004)
CALM (2002)
DEC (2011)
EnviroWorks Consulting (2011)
McAplin (2001)
Pavey (2006)
Pavey et al. (2006)
Shepherd (2009)
SPRAT (2011)
GIS Database:
- BellRock 1.25m Orthomosaic - Landgate 2002
- Agnes 1.3 Orthomosaic - Landgate 2005
- Pre-European Vegetation
- IBRA WA (regions - subregions)
- Threatened Fauna

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

Comments

Proposal may be at variance to this Principle

A desktop review was undertaken by EnviroWorks Consulting (2011) which was limited by the lack of previous biological surveys to contribute to the knowledge of the region.

Searches made on the available GIS Databases reveal that there are no known records of Declared Rare Flora (DRF) existing in the application areas (GIS Database). A search of the Department of Environment and Conservation Declared Rare and Priority Flora databases revealed that no DRF species have been recorded in the application areas or within 20 kilometres of the application areas (DEC, 2011).

The information that is available indicates several conservation significant flora occur in the region with a possibility of occurrence within the area. Potential impacts to DRF as a result of the proposed clearing may be minimised by the implementation of a flora management condition.

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

Methodology

DEC (2011)
EnviroWorks Consulting (2011)
GIS Database:
- Declared Rare and Priority Flora List

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

Comments

Proposal is not likely to be at variance to this Principle

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

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

Methodology

GIS Database:
- Threatened Ecological Sites Buffered

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

Comments

Proposal is not at variance to this Principle

The application area falls within the Great Victoria Desert IBRA bioregion (GIS Database). Shepherd (2009) reports that approximately 99.9% of the pre-European vegetation still exists in this bioregion.

The vegetations within the application areas are recorded as:

Beard vegetation association 18: Low woodland; mulga (*Acacia aneura*);
Beard vegetation association 19: Low woodland; mulga between sandridges; and
Beard vegetation association 236: Hummock grasslands, shrub steppe; mulga and mallee (Marble Gum) over hard spinifex (GIS Database; Shepherd, 2009).

According to Shepherd (2009) these Beard vegetation associations remain largely uncleared (see table below).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Great Victoria Desert	21,794,207.35	21,785,242.12	~99.96	Least Concern	8.46
Beard vegetation associations - State					
18	19,892,304.84	19,890,275.39	~99.99	Least Concern	2.13
19	4,385,295.37	4,384,287.09	~99.98	Least Concern	0.11
236	1,626,899.18	1,617,442.54	~99.42	Least Concern	-
Beard vegetation associations - Great Victoria Desert Bioregion					
18	1,954,625.28	1,954,625.28	~100	Least Concern	9.22
19	2,866,597.43	2,866,304.79	~99.99	Least Concern	-
236	1,619,192.02	1,612,407.88	~99.58	Least Concern	-

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

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

Methodology

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

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

Comments

Proposal is not likely to be at variance to this Principle

According to available databases, there are no watercourses or wetlands within the application areas (GIS Database). The vegetation within the application areas is not considered to be growing in association with any

watercourse or wetland.

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

Methodology GIS Databse:
- Geodata, Lakes
- Hydrography, Linear
- BellRock 1.25m Orthmosaic - Landgate 2002
- Agnes 1.3 Orthomosaic - Landgate 2005

(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**
Disturbance of native vegetation will be for drill pads using machinery with the blade up to ensure soil is not removed (EnviroWorks Consultancy, 2011). The drill pads will be rehabilitated following the completion of drilling (EnviroWorks Consultancy, 2011). Existing tracks will be used to minimise disturbance to existing native vegetation. The proposed clearing of 0.7 hectares of native vegetation for the purpose of mineral exploration and associated activities is not likely to result in large areas of disturbed or open land. Given the nature and scale of the proposed activities, the clearing is not likely to result in appreciable land degradation.

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

Methodology EnviroWorks Consultancy (2011)

(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 located within any conservation areas (GIS Database). The nearest conservation area is the Gibson Desert Nature Reserve, located approximately 284 kilometres north-west of the application areas (GIS Database). Given the distance separating Gibson Desert Nature Reserve and the application areas, the proposed clearing is not likely to impact the environmental values of the conservation area.

The application areas occur within the Ranges of the Western Desert Environmentally Sensitive Area (Register of National Estate) (GIS Database). According to the Australian Heritage Database (2011) the Ranges of the Western Desert are a system of ranges with many gorges and valleys. The ranges are dominated by spinifex steppe, mulga and mallee scrub (Australian Heritage Database, 2011). Despite the area being on the Register of National Estate for natural values, it is considered that the proposed clearing is low impact and of a small scale and will not significantly impact on the environmental values of the area.

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

Methodology Australian Heritage Database (2011)
GIS Database:
- DEC Tenure
- Register of National Estate

(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**
The application areas are not located within a Public Drinking Water Source Area (GIS Database).
There are no permanent watercourses or water bodies within the application areas (GIS Database). Any surface water within the application areas are likely to only remain for short periods following significant rainfall events. The proposed clearing is not likely to cause deterioration in the quality of any surface water within or outside of the application area.

Given the low impact nature of the proposed clearing activities, the proposed clearing is not likely to cause deterioration in the quality of any underground water.

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

Methodology GIS Database:
- Geodata, Lakes
- Hydrography, Linear
- Public Drinking Water Source Areas

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

Comments

Proposal is not likely to be at variance to this Principle

The application area is located within the Warburton Basin catchment area (GIS Database). Given the size of the area to be cleared (0.7 hectares) in relation to the size of the catchment area (17,195,990 hectares) (GIS Database), the proposed clearing is not likely to increase the potential of 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

GIS Database:
- Hydrographic Catchments - Catchments

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

Comments

There is one Native Title claim (WC44/3) over the area under application. The mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

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

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

The clearing permit application was advertised on 23 May 2011 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the proposed clearing.

Methodology

GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Registered with the NNTT

4. References

Australian Heritage Database (2011) Department of Sustainability, Environment, Water, Population and Communities, viewed 13 June 2011, <http://www.environment.gov.au/heritage/index.html>.

Burbidge, A. (2004) Threatened Animals of Western Australia, Department of Conservation and Land Management, Perth, Western Australia.

CALM (2002) Biological Summary of the 2002 Biodiversity Audit for Western Australia, A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002 - Great Victoria Desert, ed. N.L McKenzie, J.E May and S. McKenna, Government of Western Australia, Perth, Western Australia.

DEC (2011) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, viewed 14 June 2011, <http://naturemap.dec.wa.gov.au>.

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

EnviroWorks Consulting (2011) Baggaley Hills Flora and Fauna Desktop Study. Prepared for Redstone Resources, Unpublished Report 24 March 2011.

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

McAplin, S (2001) The Recovery Plan for the Great Desert Skink (Egernia kintorei) 2001-2011. Department of Environment, Water, Heritage and the Arts, prepared by Arid Lands Environment Centre Inc, Australia.

Pavey, C (2006) Threatened Species of the Northern Territory ? Great Desert Skink Tjakura (Egernia kintorei) - Natural Resources, Environment, The Arts and Sport, Northern Territory Government, viewed 20 June 2011, <http://www.nt.gov.au/nreta/wildlife/animals/threatened/pdf/herps/egernia_kintorei_vu.pdf>.

Pavey, C., Cole, J. and Woinarksi, J. (2006) Crest-tailed Mulgara (Ampurta) Dasycercus cristicauda. Northern Territory Government, Department of Natural Resources, Environment and the Arts.

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.

SPRAT (2011) Macrotis lagotis in Species Profile and Threats (SPRAT) Database, Department of Sustainability, Environment, Water, Population and Communities, Canberra, viewed 14 June 2011, <http://www.environment.gov.au/sprat>.

Weeds Australia (2011) An Australian Weeds Committee National, Canberra, viewed on 20 June 2011, <www.weeds.org.au/>.

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.