Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3730/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **BHP Billiton Minerals Exploration**

1.3. Property details

Property: Exploration Licence 69/2313
Local Government Area: Shire of Ngaanyatjarraku
Colloquial name: West Musgraves Project

1.4. Application

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

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

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

Beard Vegetation Association 18: low woodland; Mulga (*Acacia aneura*); and

Beard Vegetation Association 39: shrublands; Mulga scrub.

Coffey Environments conducted a flora and vegetation survey of an 8000 hectare area that included the application area between 9 February 2010 and 16 February 2010. Eleven vegetation units were identified within the survey area (Coffey Environments, 2010):

Vegetation Unit 1:
Tall Open Shrubland to Tall Shrubland of *Acacia aneura* to 5 metres over Scattered Shrubs to Open Shrubland of *Senna artemisioides*, *Eremophila latrobei* subsp. *filiformis* to 2 metres over Scattered Low Shrubs of *Ptilotus obovatus* to 0.6 metres over Very Open Tussock Grassland of *Eriachne helmsii*, *Enneapogon polyphyllus*, *Monachather paradoxus* and *Aristida contorta* to 0.4 metres over Scattered Herbs of *Heliotropium moorei* to
0.2 metres. This vegetation type was recorded on flat plains on red sand/ sandy clay. This was the most dominant vegetation type within the study area.

Vegetation Unit 2:
Occasional *Corymbia opaca* and *Acacia aneura* to 4.5 metres over Scattered Tall Shrubs of *Hakea lorea* subsp. *lorea* to 3 metres over Open Shrubland of *Acacia pachyacra* and *Acacia ligulata* to 1.8 metres over Mid-Dense Hummock Grassland of *Triodia schinzii* and *Triodia basedowii* to 1.2 metres over Scattered Low Shrubs to Low Open Shrubland of *Rulingia loxophylla* to 0.5 metres over Scattered Tussock grasses of *Aristida holathera* var. *holathera* to 0.4 metres. This vegetation type was recorded on red sand/ sandy clay.

Vegetation Unit 3:
Tall Shrubland of *Acacia aneura* to 4 metres over Scattered Shrubs of *Senna artemisioides* subsp. *artemisioides* to 1.6 metres over Mid-Dense Hummock Grassland of *Triodia basedowii* to 1 metre over Scattered *Ptilotus obovatus* to 0.4 metres. This vegetation type was recorded on red sandy clay.

Vegetation Unit 4:
Tall Open Shrubland of *Acacia aneura* and *Callitris columellaris* to 3.5 metres over Open Shrubland of *Pandorea pandorana*, *Dodonaea viscosa* subsp. *spatulata*, *Hibiscus leptocladus*, *Santalum lanceolatum* and *Prostanthera albiflora* to 2 metres over Low Open Shrubland of *Abutilon leucopetalum* and *Ptilotus obovatus* to 0.4 metres over Scattered Tussock Grasses of *Cymbopogon obtectus* and *Enneapogon polyphyllus* to 0.5 metres. This vegetation type was recorded on granite outcrops.

Vegetation Unit 5:
Tall Shrubland of *Acacia aneura* to 3 metres over Shrubland of *Indigofera* sp., *Eremophila latrobei* subsp. *filiformis* and *Senna artemisioides* subsp. *artemisioides* to 1.5 metres over Very Open Tussock Grassland of *Eriachne mucronata* (arid form) and *Aristida holathera* var. *holathera* to 0.3 metres. This vegetation type was recorded on a small granite outcrop.

Vegetation Unit 6:
Tall Open Shrubland of *Acacia aneura* to 4 metres over Scattered Shrubs of *Senna artemisioides* subsp. *artemisioides* to 1.5 metres over Scattered Tussock Grasses of *Aristida contorta* and *Enneapogon polyphyllus* to 0.3 metres. This vegetation unit was recorded on red sand and was recorded in association with granite ranges.

Vegetation Unit 7:
Shrubland of *Prostanthera albiflora*, *Eremophila longifolia* and *Santalum lanceolatum* to 1.5 metres over Scattered Low Shrubs of *Hibiscus*

leptocladus to 0.6 metres over Very Open Tussock Grassland of *Digitaria brownii* and *Enneapogon polyphyllus* to 0.4 metres. This vegetation type was recorded on a granite outcrop.

Vegetation Unit 8:
Tall Shrubland of *Acacia sericophylla*, *Grevillea juncifolia* subsp. *juncifolia*, *Acacia pruinocarpa* and *Grevillea eriostachya* to 4 metres over Scattered Shrubs of *Eremophila forrestii* subsp. *forrestii*, *Acacia melleodora* and *Acacia ligulata* and *Acacia pachyacra* to 1.6 metres over Mid-Dense Hummock Grassland of *Triodia schinzii* and *Triodia basedowii* to 1.2 metres over Scattered Low Shrubs of *Rulingia loxophylla* to 0.4 metres. This vegetation unit was recorded on deep red sands and flat plains.

Vegetation Unit 9:
This vegetation type is a subset of Vegetation Unit 8 but with a significant component of *Eucalyptus gamophylla*: Low Open Woodland of *Eucalyptus gamophylla* to 2.5 metres over Tall Shrubland of *Acacia sericophylla*, *Grevillea juncifolia* subsp. *juncifolia*, *Acacia pruinocarpa* and *Grevillea eriostachya* to 4 metres over Scattered Shrubs of *Eremophila forrestii* subsp. *forrestii, Acacia melleodora* and *Acacia ligulata* and *Acacia pachyacra* to 1.6 metres over Mid-Dense Hummock Grassland of *Triodia schinzii* and *Triodia basedowii* to 1.2 metres over Scattered Low Shrubs of *Rulingia loxophylla* to 0.4 metres. This vegetation type was recorded on red sand.

Vegetation Unit 10:
Tall Shrubland of *Grevillea stenobotrya* and *Dodonaea viscosa* subsp. *angustissima* to 3 metres over Shrubland of *Aluta maisonneuvei* subsp. *maisonneuvei* and *Acacia ligulata* to 1.1 metres over Open Hummock Grassland of *Triodia basedowii* and *Triodia schinzii* to 1.1 metre over Scattered Tussock grasses of *Aristida holathera* var. *holathera* to 0.4 metres over Scattered Low Shrubs of *Leiocarpa semicalva* subsp. *semicalva* and *Scaevola parviflora* subsp. *parviflora* to 0.3 metres. This vegetation type was recorded in association with a large red Aeolian sand dune oriented in a north west – south west direction.

Vegetation Unit 11:
Tall Shrubland of *Acacia colletioides*, *Grevillea juncifolia* subsp. *juncifolia* and *Acacia melleodora* to 3 metres over Mid-Dense Hummock Grassland of *Triodia basedowii* to 1.1 metre. This vegetation unit was recorded on red sand fringing granite outcrops.

Clearing Description

BHP Billiton Minerals Exploration (BHP Billiton) has applied to clear up to 50 hectares of native vegetation within an application area totalling approximately 69 hectares (GIS Database). The proposed clearing is located approximately 80 kilometres south-east of Warburton (GIS Database).

The purpose of the proposed clearing is mineral exploration (BHP Billiton, 2010). BHP Billiton (2010) proposes to clear for the construction of drill holes, drill pads, sumps and access tracks. Vegetation will be cleared by mechanical means and vegetation and topsoil will be stockpiled for rehabilitation purposes (BHP Billiton, 2010).

Vegetation Condition

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

To

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

Comment
The vegetation condition rating is derived from a flora and vegetation survey conducted by Coffey Environments in February 2010. Camel, vehicle tracks and fire disturbances were evident in some of the survey area and the impact of fire was distributed in a mosaic pattern throughout the survey area (Coffey Environments, 2010).

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 proposed clearing area is located within the Ranges of the Western Desert Register of National Estate and the Ranges of the Western Desert Redbook Area (GIS Database). The Ranges of the Western Desert are a series of mountain ranges that are the western extension of the central Australian range complex (EPA, 1974). The ranges have varied topography and geology and are therefore often high in flora diversity (EPA, 1974).

A flora and vegetation survey of an 8000 hectare area that included the application area was conducted by Coffey Environments from 9 February 2010 to 16 February 2010. Coffey Environments (2010) identified a total of 145 flora species representing 83 genera from 36 families. Coffey Environments (2010) reports that the dominant families were represented by the Grass family (*Poaceae*), Hibiscus family (*Malvaceae*), Acacia family (*Mimosaceae*), Senna family (*Caesalpiniaceae)* and the Pea family (*Papilionaceae*). These results are typical of the flora diversity of this region (Coffey Environments, 2010).

The vegetation within the application area is well represented within the region (Coffey Environments, 2010). No Declared Rare Flora, Priority Flora or Threatened Ecological Communities were recorded within the 8000 hectare survey area during the flora and vegetation survey (Coffey Environments, 2010).

Coffey Environments (2010) identified two weed species within the application area; Spiked Malvastrum (*Malvastrum americanum*) and Caltrop (*Tribulus terresteris*). The presence of weed species lowers the biodiversity value of the proposed clearing area. Care must be taken to ensure that the proposed clearing

activities do not spread or introduce weed species to non-infested areas. The risk of spreading weeds can be mitigated by imposing a condition for the purpose of weed management.

A search was conducted by the assessing officer of the Department of Environment and Conservation's NatureMap database for fauna species that could potentially occur within the application area. This search identified a total of 30 fauna species from 23 families that could potentially occur within a 40 kilometre radius of the application area (DEC, 2007). This represents relatively low fauna diversity with the majority of these species comprised of reptile species (DEC, 2007).

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

Methodology Coffey Environments (2010)
DEC (2007)
EPA (1974)
GIS Database
- Register of National Estate
- Systems 1 to 5 and 7 to 12

(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 search of the Department of Environment and Conservation's (DEC's) fauna databases was conducted by DEC on behalf of the proponent. This search revealed ten fauna species of conservation significance that have previously been recorded within a 100 kilometres radius of the application area, however, some of these fauna species have not been officially recorded since 1873 (BHP Billiton, 2010). The vegetation communities found within the application area are well represented within surrounding areas and furthermore, clearing will not be occurring within areas that could represent significant fauna habitat such as breakaways or major creeklines (Coffey Environments, 2010).

The clearing of 50 hectares of native vegetation, for non-intensive exploration purposes, is unlikely to have a significant impact on the habitat of any fauna species.

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

Methodology BHP Billiton (2010)
Coffey Environments (2010)

(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

Coffey Environments conducted a flora and vegetation survey of an 8000 hectare area that included the application area in February 2010. This survey included a desktop survey of the Department of Environment and Conservation's threatened flora databases to identify Declared Rare Flora species and Priority Flora species that could potentially occur within the survey area (Coffey Environments, 2010). Following this, a field survey was conducted from 9 February 2010 to 16 February 2010 with the aim of providing a description of the dominant vegetation communities, vegetation condition and flora species present, in addition to determining if any of the conservation significant flora identified during the desktop survey are present within the search area (Coffey Environments, 2010). The methods employed by Coffey Environments (2010) to search the survey area consisted of the following:

- identification and delineation of major vegetation types using a combination of colour aerial photography and ground truthing;
- sampling using releves (plotless assessment sites) within representative vegetation types;
- broad scale traversing throughout the study area; and
- intensive traversing in areas which were identified as potential habitats suitable for the location of Priority Flora.

The desktop survey identified eight Priority Flora species that could potentially occur within the application area (Coffey Environments, 2010). However, no Declared Rare or Priority Flora species were recorded during the flora and vegetation survey (Coffey Environments, 2010).

Coffey Environments (2010) reports that whilst most flora species were identifiable during the survey, two species, *Menkea lutea* (Priority 1) and *Calotis latiuscula* (Priority 3) may not have been identifiable or present at the time of the survey. These species are generally found in sandy clay habitats (Coffey Environments, 2010).

The vegetation associations present within the application area are widespread throughout the region. Given this, the proposed clearing for the purpose of non-intensive exploration drilling, is unlikely to significantly impact on any Declared Rare or Priority Flora habitat.

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

Methodology Coffey Environments (2010)

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

Comments

Proposal is not likely to be at variance to this Principle

There are no known Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) within the application area (GIS Database). There are no known TECs or PECs within 500 kilometres of the application area (GIS Database).

Coffey Environments (2010) reports that no TECs or PECs were identified during the flora and vegetation survey of the application area and surrounding region.

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

Methodology Coffey Environments (2010)
GIS Database
- Threatened Ecological Sites

(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 Central Ranges Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Shepherd (2007) reports that approximately 100% of the pre-European vegetation still exists within this Bioregion (see table below). The vegetation within the application area is recorded as the following Beard Vegetation Associations (Shepherd, 2007):

Beard Vegetation Association 18: low woodland; Mulga (*Acacia aneura*); and

Beard Vegetation Association 39: shrublands; Mulga scrub.

According to Shepherd (2007) approximately 100% of these vegetation associations remain within the bioregion (see table below).

The vegetation within the application area is not a remnant of native vegetation within 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 - Central Ranges	4,701,520	4,700,180	~100	Least Concern	0.0
Beard vegetation associations - State					
18	19,892,305	19,890,195	~100	Least Concern	~2.1
39	6,613,568	6,613,460	~100	Least Concern	~7.2
Beard vegetation associations - Bioregion					
18	1,075,927	1,075,151	~100	Least Concern	0.0
39	404,691	404,691	~100	Least Concern	0.0

* 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)

(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 may be at variance to this Principle

According to available databases there is one minor ephemeral watercourse within the application area (GIS Database).

According to available databases this drainage line does not appear to be interconnected on the surface to any other watercourse (GIS Database). Furthermore, this ephemeral watercourse is less than one kilometre in length (GIS Database). Aerial photographs suggest that vegetation surrounding the watercourse is quite sparse (GIS Database).

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

Methodology

GIS Database
- Cooper 1.25m Orthomosaic - Landgate 2002
- Hydrography, 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

The application area is mapped as being within the Mann-Musgrave Block subregion of the Central Ranges Interim Biogeographic Regionalisation of Australia bioregion (GIS Database).

Within Western Australia the Mann-Musgrave Block subregion is described by CALM (2002) as consisting of a high proportion of Proterozoic ranges including both volcanic and quartzites and derived soil plains, interspersed with red Quaternary sandplains with some Permian exposure. The vegetation descriptions provided by Coffey Environments (2010) indicates a pre-dominance of sandy soils.

Based on the sandy composition of many areas within this region, the proposed clearing may exacerbate erosion in some areas. BHP Billiton (2010) will avoid dune systems and areas that are subject to higher rates of erosion due to these areas being inaccessible to drill rigs.

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

Methodology

BHP Billiton (2010)
CALM (2002)
Coffey Environments (2010)
GIS Database
- IBRA WA (Regions - Subregion)

(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 area is located within the Ranges of the Western Desert Register of National Estate (RNE) and the Ranges of the Western Desert Redbook area (GIS Database). The Ranges of the Western Desert are a series of mountain ranges that are the western extension of the central Australian range complex (EPA, 1974). The ranges have varied topography and geology and are therefore often high in flora diversity (EPA, 1974).

The proposed clearing of 50 hectares of native vegetation, in comparison to the size of the Ranges of the Western Desert RNE area and Redbook area (approximately 8,016,568 hectares (GIS Database)) is unlikely to impact on the conservation values of these reserves.

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

Methodology

EPA (1974)
GIS Database
- Register of National Estate
- Systems 1 to 5 and 7 to 12

(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 there is one minor ephemeral watercourse within the application area (GIS Database). This drainage line does not appear to be interconnected on the surface to any other watercourse and furthermore, this ephemeral watercourse is less than one kilometre in length (GIS Database). Given this, the proposed clearing of 50 hectares of native vegetation, for non-intensive exploration purposes, is unlikely to impact upon surface or underground water quality.

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

Methodology GIS Database
- Hydrography, linear

(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**
According to available databases there is one minor ephemeral watercourse within the application area (GIS Database). This drainage line does not appear to be interconnected on the surface to any other watercourse and furthermore, this ephemeral watercourse is less than one kilometre one length (GIS Database).

The clearing of 50 hectares of native vegetation for the purpose of non-intensive exploration purposes, is unlikely to increase the incidence or intensity of flood events.

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

Methodology GIS Database
- Hydrography, linear

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

Comments

There is one Native Title Claim (WC04/003) over the area under application (GIS Database). This claim has been registered with the Native Title Tribunal on behalf of the claimant group. However, the tenement 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*.

According to available databases there is one registered Aboriginal Site of Significance (site ID: 2889) 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 was advertised by the Department of Mines and Petroleum on 17 May 2010, inviting submissions from the public. There were no submissions received.

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

4. Assessor's comments

Comment

This application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing may be at variance to Principle (f), is not likely to be at variance to Principles (a), (b), (c), (d), (g), (h), (i) and (j) and is not at variance to Principle (e).

5. References

BHP Billiton (2010) Clearing Permit Application Supporting Documentation. BHP Billiton Nickel West Pty Ltd, Western Australia.

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.

Coffey Environments (2010) Flora and Vegetation Assessment West Musgraves Project Area Great Victorian Desert. February 2010. Unpublished Report. Coffey Environments Pty Ltd, Western Australia.

DEC (2007) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: 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.

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EPA (1974) Conservation Reserves in Western Australia - Report of the Conservation Through Reserves Committee to the Environmental Protection Authority: Section 1, Systems 1-5 "CTRC Green Book". Environmental Protection

Authority, Perth.
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6. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEC	Department of Environment and Conservation
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DoE), Western Australia.
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia.
DMP	Department of Mines and Petroleum, Western Australia.
DoE	Department of Environment, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
IBRA	Interim Biogeographic Regionalisation for Australia.
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	Threatened Ecological Communities.

Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-

P1	**Priority One - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P2	**Priority Two - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P3	**Priority Three - Poorly Known taxa**: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
P4	**Priority Four – Rare taxa**: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
R	**Declared Rare Flora – Extant taxa** *(= Threatened Flora = Endangered + Vulnerable)*: taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
X	**Declared Rare Flora - Presumed Extinct taxa**: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

Schedule 1 **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.

Schedule 2 **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.

Schedule 3 **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.

Schedule 4 **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). *Priority Codes for Fauna*. Department of Conservation and Land Management, Como, Western Australia} :-

P1 **Priority One: Taxa with few, poorly known populations on threatened lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P2 **Priority Two: Taxa with few, poorly known populations on conservation lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P3 **Priority Three: Taxa with several, poorly known populations, some on conservation lands**: Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P4 **Priority Four: Taxa in need of monitoring**: Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.

P5 **Priority Five: Taxa in need of monitoring**: Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999)*

EX **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.

EX(W) **Extinct in the wild:** A native species which:
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.

CR **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.

EN **Endangered:** A native species which:
(a) is not critically endangered; and
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

VU **Vulnerable:** A native species which:
(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

CD **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.