



1. Application details

1.1. Permit application details

Permit application No.: 2561/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Primary Resources Limited

1.3. Property details

Property: Exploration Licence 69/1564
Local Government Area: Shire Of Ngaanyatjarraku
Colloquial name: Warburton Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.6		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 1:250,000 scale for the whole of Western Australia, and are a useful tool to examine the vegetation extent in a regional context. Two Beard vegetation associations are located within the application area (GIS Database);

18; Low woodland; mulga (*Acacia aneura*); and

39; Shrublands; mulga scrub.

Low Ecological Services (2006a) conducted a targeted flora survey from the 17th-18th January 2006, with a follow-up survey of areas previously not assessed conducted on 11 April 2006. These flora studies were carried out within a 6 x 7 kilometre area known as the Gross Area Box (GAB), which surrounds the application area. During the flora survey, five main vegetation types were identified within the survey GAB. These are described as follows (Low Ecological Services, 2006; 2006a);

a) Low Woodlands: Mulga (*Acacia aneura*) with Woollybutt (*Eragrostis eriopoda*) open grassland understorey;

b) Low Open Woodlands: Mulga (*Acacia aneura*) on rock rises with Wanderrie Grass (*Eriachne mucronata*) understorey;

c) Open Shrublands: Sparsely dispersed *Acacia* and *Hakea* trees over *Senna* shrubs and *Aristida* grasses;

d) Hummock Grasslands: Shrub steppe, *Acacia* and *Grevillea* over *Triodia basedowii*; and

e) Dune Shrublands: *Eremophila* and *Grevillea* shrubs over *Aristida* grasses;

Clearing Description Primary Resources Limited (hereby known as Primary Resources) proposes to clear 2.6 hectares of native vegetation within a purpose permit boundary of 2,170 hectares (Primary Resources, 2008). The proposed clearing is for the purpose of mineral exploration on Exploration Licence 69/1564. Two hectares of clearing is required for access tracks to three proposed drill hole locations. The remaining 0.6 of a hectare will be utilised for drill pads. The proposed clearing will be undertaken mechanically with a raised blade (Primary Resources, 2008).

Vegetation Condition Pristine: No obvious signs of disturbance (Keighery 1994)

Comment Primary Resources commissioned Low Ecological Services (2006) to conduct two target flora surveys of the application area in 2006. Based on these surveys the condition of the vegetation was derived.

The survey area contains pristine vegetation communities that have not experienced disturbance from human activities, apart from nomadic occupation by indigenous peoples for thousands of years and the presence of the Blackstone-Warburton Road (Low Ecological Services, 2006). Hunting from vehicles over recent years has also

resulted in increased disturbance throughout the application area.

Low Ecological Services (2006) advise that grazing pressure by large mammals (mainly camels) was present, however, overall grazing pressure on the land has had a minor impact on vegetation condition.

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 is situated approximately 80 kilometres east of the Aboriginal Community of Warburton in the Great Victoria Desert 2 (GVD 2) sub-region of the Great Victoria Desert Interim Biogeographic Regionalisation for Australian (IBRA) bioregion (GIS Database). The Australian Natural Resource Atlas (ANRA) (2008) state that, "no systematic biological survey has been undertaken for the region, although there has been some assessment of biota on proposed and current reserves and a number of localized studies have occurred". On the Continental Landscape Stress Class issued by the Australian Natural Resource Atlas, the GVD 2 bioregion is classed as 5, where 1 is most stressed and 6 is least (ANRA, 2008).

Vegetation of the bioregion can be generally described as; tree steppe of *Eucalyptus gongylocarpa*, *Spinifex* (*Triodia spp.*) and mallee (*Eucalyptus kingsmilli*, *E. youngiana*) over hummock grassland dominated by *Triodia basedowii* on the aeolian sands, *Acacia* and mulga occur on the colluvial soils with *Eremophila* and *Santalum spp.* (ANRA, 2008).

A biological assessment of the application area was conducted by Low Ecological Services in January 2006, during which a flora survey of the Gross Area Box was conducted (Low Ecological Services, 2006). A follow-up flora survey was conducted in April 2006 across areas previously not assessed during the January survey (Low Ecological Services, 2006a). A desktop assessment of fauna of conservation significance that may occur within the application area was also conducted, with an opportunistic assessment for those species undertaken in the field (Low Ecological Services, 2006).

No Declared Rare or Priority flora species are known to occur within the application area (GIS Database), and Low Ecological Services (2006; 2006a) advise that no flora species of conservation significance were recorded from either the January or April flora survey. The application area had received significant rainfall prior to these flora surveys being conducted, hence the timing was considered to be suitable for the purposes of these studies.

Low Ecological Services (2006) advise that no fauna species of conservation significance were observed during the survey, although a desktop review of the *Environmental Protection and Biodiversity Conservation (EPBC) Act 1999* and the Department of Environment and Conservation (DEC) Threatened and Priority fauna database identified three birds, four mammals and two reptile species of conservation significance which may occur within the application area.

No weeds were recorded during either of the flora surveys conducted in January 2006 and April 2006 (Low Ecological Services, 2006; 2006a). As no weeds have been identified within the application area, the introduction of weeds may pose a threat to the biodiversity of the application area. Should the permit be granted it is recommended a condition be placed on the permit for the purposes of weed management.

Feral animals are reported to pose a major threat to the biodiversity of the Great Victoria Desert 2 sub-region although the impacts are largely unknown (ANRA, 2008). Feral herbivores such as rabbits and camels have been reported to be widespread, although Low Ecological Services (2006) report their impact on the vegetation condition has been minimal.

The ecological impacts and extent of feral carnivores such as foxes and cats is largely unknown, however they appear to have taken a large toll on mammal species within the bioregion. A total of 52 mammal species have been registered to occur within the bioregion, however, 21 of those are now reported to be extinct (ANRA, 2008).

The vegetation habitat types occurring within the application area are well represented in the bio-region (Shepherd et al., 2001), and the application area is unlikely to be of higher biodiversity value than the surrounding areas. The bioregion has a medium priority for reserve consolidation with 9.4 percent in International Union for Conservation Nature I-IV reserves, and minimal sub-regional bias (ANRA, 2008).

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

Methodology

ANRA, 2008
Low Ecological Services (2006)
Low Ecological Services (2006a)
Shepherd et al. (2001)

GIS Database
- Declared Rare and Priority flora list
- Interim Biogeographic Regionalisation for Australian

(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

No detailed vertebrate or invertebrate fauna surveys have been conducted over the application area, however, incidental sightings of animals and/or their signs (i.e. tracks, scats, burrows etc.) were recorded opportunistically, and discussions with traditional owners and Ngaanyatajarra Land Management staff provided local knowledge of the fauna (Low Ecological Services, 2006).

A search of the Department of Environment and Conservation's (DEC's) Threatened and Priority Fauna Database and the West Australian Museum Faunabase revealed nine species of conservation significant fauna which may occur in the application area (Low Ecological Services, 2006). In total, three birds, four mammals and two reptiles of conservation significance were identified (Low Ecological Services, 2006). These are shown below, including their conservation status in accordance with the *Wildlife Conservation Act 1950 (WC Act 1950)*, The *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act 1999)* and DEC's priority list.

Name	EPBC Act 1999	WC Act 1950	DEC's priority list	Occurrence likelyhood
Mulgara – <i>Dasyercus cristicauda</i>	Vulnerable	Schedule 1	-	Possible
Black-footed Rock wallaby – <i>Petrogale lateralis</i> spp	Vulnerable	Schedule 1	-	Possible
Greater Bilby- <i>Macrotis lagotis</i>	Vulnerable	Schedule 1	-	Possible
Northern Marsupial Mole - <i>Notoryctes caurinus</i>	Endangered	Schedule 1		Possible
Oriental Dotterel - <i>Charadrius veredus</i>	Migratory	-	-	Possible
Slender-billed Thornbill – <i>Acanthiza iredalei iredalei</i>	Vulnerable	-	-	Possible
Rainbow Bee-eater – <i>Merops ornatus</i>	Migratory	-	-	Possible
Great Desert Skink – <i>Egernia kintorei</i>	Vulnerable	Schedule 1	-	Possible
Woma – <i>Aspidites ramsayi</i>	-	Schedule 4	Priority 4	Possible

Low Ecological Services (2006) advise that no fauna species of conservation significance were observed during the survey. A population of Greater Bilbies has been surveyed over the last couple of years 30 to 50 kilometres north of Warburton by Ngaanyatajarrku Land Management surveys (R.Edwards, pers. comm., Jan. 2006 as cited in Low Ecological Services 2006), however, the Land Management officer was not aware of any Greater Bilby populations existing in the country near the application area.

The sporadic clearing of 2.6 hectares within a purpose permit boundary of approximately 2,170 hectares of uncleared vegetation is unlikely to impact upon significant habitat for any of the species listed above. Almost 100% of the pre-European vegetation still exists in the Great Victoria Desert 2 sub-region (Shepherd et al, 2001). Therefore, most fauna habitats are still very well represented. Furthermore, the majority of clearing (2 hectares) is for the purpose of creating a track to three proposed drill locations. During the creation of this track, trees and significant vegetation will be avoided (Primary Resources, 2008).

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

Methodology Low Ecological Services (2006)
Primary Resources (2008)
Shepherd et al. (2001)

(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

Low Ecological Services (2006) were commissioned from 17th-18th January 2006 to undertake a flora survey of the GAB. There was approximately 180 millimetres of rainfall during the 4 weeks preceding the field survey, resulting in many newly emerged forbs and grasses (Low Ecological Services, 2006). A follow-up survey was conducted on 11th April 2006, as some areas were previously not assessed.

Prior to the field survey, a search for Declared Rare and Priority flora species previously recorded or likely to occur within the vicinity of the application area was undertaken using the DEC database; FloraBase (Low Ecological Services, 2006). Species lists from the *Wildlife Conservation (Rare Flora) Notice 2005* and the *EPBC Act 1999* were also compared to the flora species recorded during the survey. Plant species collected in the field for which identifications were uncertain, were collected as voucher specimens and identified in consultation with botanist Des Nelson and the Alice Springs Herbarium.

The results of the database search for Declared Rare and Priority flora species indicated that 17 Priority flora species may possibly occur within, or near the vicinity of the GAB study area (Low Ecological Services, 2006). Of these, it is considered that one species had a high possibility of occurring within the survey area (*Microcorys macredieana* - Priority 3), 10 species had a moderate chance, and six species had a low to very low chance of occurring within the survey area due to known habitat and landscape requirements.

During the April flora survey, *Microcorys macredieana* was found to occur within the sand dunes two kilometres from the application area. However, no specimens were recorded within the application area or in close proximity to drill sites (Primary Resources, 2008). No other species of conservation significance were recorded from within the application area during either the January or April flora surveys (Low Ecological Services, 2006; 2006a).

All flora species and habitat types recorded are common throughout the Great Victoria Desert sub-region and surrounding regions (Low Ecological Services, 2006). This suggests it is unlikely that flora species of conservation significance will particularly occur within the survey area and not in surrounding habitats.

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

Methodology Low Ecological Services (2006)
Low Ecological Services (2006a)

GIS Database

(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 (TEC's) within the Great Victoria Desert 2 sub-region (Barton & Cowan, 2001). The nearest known TEC is located approximately 760 kilometres away to the south-west (GIS Database).

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

Methodology Graham & Cowan (2001)

GIS Databases
- Threatened Ecological Community Database

(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 within the Interim Biogeographic Regionalisation for Australia (IBRA) Great Victoria Desert bioregion (GIS Database). According to Shepherd et al. (2001) there is approximately 100% of the pre-European vegetation remaining in the Great Victoria Desert bioregion. The vegetation of the application area is classified as Beard vegetation associations 18; Low woodland; mulga (*Acacia aneura*); and 39; Shrublands; mulga scrub (GIS Database). There is approximately 100% of the pre-European vegetation remaining of Beard vegetation associations 18 and 39 in the Great Victoria Desert bioregion (Shepherd et al., 2001).

Both Beard vegetation associations within the application area are represented in conservation reserves within the state and the bioregion (Shepherd et al., 2001).

The application area does not represent a significant remnant of vegetation in the wider regional area. The proposed clearing is unlikely to reduce the extent of Beard vegetation associations 18 and 39 below current recognised threshold levels, below which species loss increases significantly (EPA, 2000).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% of Pre-European area in IUCN Class I-IV Reserves (and current %)
IBRA Bioregion – Great Victoria Desert Bioregion	21,794,203	21,784,884	~ 100	Least Concern	8.5
Beard veg assoc. – State					
18	19,892,437	19,890,348	~ 100	Least Concern	2.1 (2.1)
39	6,613,602	6,613,496	~ 100		7.2 (7.2)
Beard veg assoc. – Bioregion					
18	1,954,624	1,954,624	100	Least Concern	9.2 (9.2)
39	1,183,999	1,183,999	100		3.0 (3.0)

* Shepherd et al. (2001) updated 2005

** 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)
EPA (2000)
Shepherd et al. (2001)

GIS Database
- Pre-European Vegetation

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

Comments Proposal is at variance to this Principle

Several minor, non-perennial watercourses are situated within the application area, however, these are upslope of the proposed clearing areas and will not be impacted upon by any clearing associated with this proposal (GIS Database).

Low Ecological Services (2006) further advise that surface hydrology is poorly formed within the application area, and that no major creeklines are present. Small-scale ephemeral watercourses have cut drainage gullies from the elevated rocky slopes, however, none of these watercourses extend far into the alluvial pediment nor intersect proposed drill sites.

As there are watercourses within the application area, the proposal is at variance to this Principle, however, Primary

Resources have advise that no clearing or drilling will take place in natural drainage lines (Mr van der Linden 2008, pers. Comm., 25 July) .

Methodology Low Ecological Services (2006)
Mr van der Linden (2008)

GIS Databases
- Hydrography, linear
- Lakes 250K - GA.
- NATMAP 250K Series Mapping - GA

(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 methods of clearing are proposed to be raised blade and lowered blade (Primary Resources, 2008). Raised blade methods ensure equipment blades are above the ground level to minimise soil displacement and erosion potential. This type of clearing is preferred for access tracks as it leaves soil and root systems intact. Primary Resources (2008) will minimise vegetation clearing by utilising existing tracks and naturally sparse areas to ensure land degradation is further reduced.

Lowered blade methods present a higher potential for soil displacement. However this type of clearing will only be used within drill pad sites where management practices will ensure land degradation is minimised. Such practices will include the establishment of proper drainage systems and minimising cleared areas to prevent erosion (Primary Resources, 2008).

Low Ecological Services (2006) advise that the soils encountered during the survey included red sandy loams on the flat plains, hardpan clayey sands in depressions where Mulga often dominated, and mostly rocky habitat (skeletal soils) on the ridges and slopes. The land targeted for exploration is predominantly situated on flat sand plain with low potential for erosion development.

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

Methodology Low Ecological Services (2006)
Primary Resources (2008)

(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 falls within an Environmentally Sensitive Area (ESA); Ranges of the Western Desert (GIS Database). The ESA was registered in 1978 and covers an area of 8,019,568 hectares (DEWHA, Australian Heritage Database, 2008). The Australian Heritage Commission deemed that this area has indigenous values of National Estate significance (DEWHA, Australian Heritage Database, 2008). The proposed clearing is not likely to impact upon environmental values of the area.

There are no flora and fauna conservation reserves within 100 kilometres of the application area (GIS Database).

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

Methodology DEWHA, Australian Heritage Database (2008)

GIS Database
- Environmentally Sensitive Areas

(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 area is not situated within a Public Drinking Water Source Area (PDSWA) (GIS Database).

Groundwater within the application area is fresh to brackish, between 1,000 - 3,000 milligrams per litre of Total Dissolved Solids (GIS Database). Given the large size of the Musgrave Groundwater Province (3,240,400 hectares) and the relatively small size of the proposed clearance area (2.6 hectares) it is unlikely that the clearing will impact on the quality of the groundwater (GIS Database).

The proposed clearing areas are not associated with any permanent watercourses or water bodies (GIS Database). A series of minor non-perennial drainage lines run through the north-east of the application area, crossing the Blackstone-Warburton Road (GIS Database). However, Primary Resources have advise that no clearing or drilling will take place in natural drainage lines (Mr van der Linden 2008, pers. Comm., 25 July) .

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

Methodology Low Ecological Services (2006).
Mr van der Linden (2008)

GIS Databases
- Groundwater Provinces
- Hydrography, linear

- Lakes 250K
- NATMAP 250K Series Mapping.
- Public Drinking Water Source Areas (PDWSAs)

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

Comments Proposal is not likely to be at variance to this Principle

The application area is located in the Musgrave Ranges in central eastern Western Australia, approximately 80 kilometres east of Warburton (Low Ecological Services, 2006). The landscape throughout the project area is predominantly an extensive red sand plain that supports sparse open woodland and open shrublands.

The average rainfall for the area is typically 200 millimetres per annum, however, some years may only have 35 millimetres and others can receive 650 millimetres (BOM web site as cited in Low Ecological Services, 2006). It could be reasonably expected that the broad plains which dominate the project area would spread and disperse floodwaters during heavy rainfall events.

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

Methodology Low Ecological Services (2006)

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

Comments

There is one native title claim over the application area (GIS Database). This claim (WC04/003) has been registered with the National Native Title Tribunal on behalf of the claimant group (GIS Database). 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*.

There are two Aboriginal sites of significance (ID 2949 & 2950) within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no sites of Aboriginal significance are damaged through the clearing process. The proponent is aware of these sites of significance and is working with the local indigenous community as to avoid disturbance (Mr van der Linden 2008, pers. Comm., 25 July) .

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.

Methodology Mr van der Linden (2008)

- GIS Databases
- Aboriginal Sites of Significance
- Native Title Claims

4. Assessor's comments

Comment

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

Should the permit be granted, it is recommended that conditions be imposed on the permit for the purposes of record keeping, permit reporting, and weed management.

5. References

Australian Natural Resource Atlas (ANRA) (2008), Biodiversity Assessment Great Victoria Desert Bioregion www.anra.gov.au/topics/vegetation/assessment/wa/ibra-great-victoria-desert.html. Published by the Department of the Environment and Water Resources.

Barton, B & Cowan, M. (2001) Great Victoria Desert 2 (GVD2 Great Victoria Desert central) subregion In a Biodiversity Audit of Western Australia's 53 Biogeographic subregions. Department of Conservation and Land Management, Perth, Western Australia.

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.

Department of the Environment, Water, Heritage and the Arts; Australian Heritage Database (2008), Ranges of the Western Desert, Laverton-Warburton Rd, Warburton via Laverton, WA, Australia. <http://www.environment.gov.au/cgi-bin/ahdb/search.pl>

EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority.

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

Low Ecological Services (2006) Baseline Vegetation Survey of Exploration Drill Sites in EL69/1564 - Central Ranges Region, W.A. Consultants report to Primary Resources Limited. March 2006.

Low Ecological Services (2006a) Addendum for the Vegetation Survey of Proposed Exploration Drill Sites in EL69/1564 - Central Ranges Region, W.A. Consultants report to Primary Resources Limited. May 2006.

Mr van der Linden (Assets & Tenement Manager, Primary Resources) (2008), Personal communication via email, referring to indigenous issues and water courses, 25 July 2008.

Primary Resources (2008), Supporting Document, Warburton Project. Unpublished documents prepared by Primary Resources Limited.

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.
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 in 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.