



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 3768/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: **A1 Minerals Limited**

### 1.3. Property details

Property: Miscellaneous Licence 38/123  
Local Government Area: Shire of Laverton  
Colloquial name: Alpha – Beta Haul Road Project

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
59.86		Mechanical Removal	Haul road construction and associated activities

## 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 1239:** hummock grasslands, open medium tree steppe; Marble Gum and Mallee (*Eucalyptus youngiana*) over hard Spinifex (*Triodia basedowii*) on sandplain.

Keith Lindbeck and Associates conducted a flora and vegetation survey of the application area in February 2010. Keith Lindbeck and Associates (2010a) identified the following vegetation units within the application area:

##### Drainage

*Acacia balsamea*, *Acacia aneura*, *Acacia coolgardiensis*, *Acacia craspedocarpa* tall open shrubland / open woodland.

##### Mulga open woodland / shrubland

*Acacia aneura* open tall shrubland / woodland with scattered *Casuarina pauper* groves, *Brachychiton gregorii* over *Acacia effusifolia*, *Acacia coolgardiensis* scattered tall shrubs over *Senna artemisioides* subsp. *filifolia*, *Senna artemisioides* subsp. *helmsii* x *filifolia*, *Eremophila longifolia*, *Eremophila arachnoides* subsp. *arachnoides*, *Ptilotus obovatus*, *Dodonaea lobulata*, *Scaevola spinescens* open shrubland / scattered shrubs over *Triodia desertorum* scattered hummock grasses.

##### Mulga / *Eucalyptus* woodland / Open Woodland

*Acacia aneura* / *Eucalyptus gongyocarpa* woodland over *Acacia colletioides*, *Acacia craspedocarpa*, *Acacia effusifolia*, *Grevillea berryana* shrubland / tall shrubland over *Eragrostis eriopoda* scattered grasses.

##### Saline

*Atriplex quinii*, *Maireana tomentosa*, *Sclerolaena cuneata*, *Frankenia georgei* low open shrubland.

##### Clearing Description

A1 Minerals Limited (A1 Minerals) proposes to clear up to 59.86 hectares of native vegetation (A1 Minerals, 2010). The application area is located approximately 30 kilometres south-east of Laverton (GIS Database).

The purpose of the proposed clearing is to construct a haul road. Vegetation will be cleared by mechanical means and cleared vegetation will be stockpiled for rehabilitation purposes (A1 Minerals, 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 was derived from a flora and vegetation survey conducted by Keith Lindbeck and Associates from 22 to 24 February 2010.

Keith Lindbeck and Associates (2010a) reports that disturbance is in the form of mining and grazing activities, although the area appears to have been destocked.

### 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 may be at variance to this Principle**

The application area is located within the Eastern Murchison subregion of the Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion and the Shield subregion of the Great Victoria Desert IBRA bioregion (GIS Database).

The Eastern Murchison subregion is described by CALM (2002) as being rich and diverse in both its flora and fauna. CALM (2002) reports that most species are wide ranging and usually occur in at least one, and often several adjoining regions.

CALM (2002) reports that the Shield subregion contains yellow sandplain communities with very diverse mammalian and reptile fauna and distinctive plant communities. Threats to these communities are in the form of mining, extensive summer wildfires and feral predators (CALM, 2002). In addition, CALM (2002) reports that hummock grasslands, open low tree steppe (Mulga over *Triodia scariosa*) are confined entirely to this subregion.

Keith Lindbeck and Associates conducted a flora and vegetation survey of the application area in February 2010. Keith Lindbeck and associates (2010a) identified a total of 29 species from 22 genera and 16 families, within the survey area. The two most common families consisted of *Fabaceae*, followed by *Chenopodiaceae* (Keith Lindbeck and Associates, 2010a). These results do not represent particularly diverse flora.

The vegetation within the application area is well represented within the region, and most species are wide ranging (Keith Lindbeck and Associates, 2010a). No Declared Rare Flora or Threatened Ecological Communities were recorded within the survey area (Keith Lindbeck and Associates, 2010a). Two Priority 3 flora species were recorded within the survey area, however, these species were found to be quite well represented in areas outside of the application area (Keith Lindbeck and Associates, 2010a).

Keith Lindbeck and Associates (2010a) reports that one weed species was recorded within the application area; Prickly Paddy Melon (*Cucumis myriocarpus*). The presence of introduced weed species would lower the biodiversity value of the proposed clearing area. It is important to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. The risk of spreading weed species can be mitigated by imposing a condition for the purpose of weed management.

Keith Lindbeck and Associates conducted a desktop and reconnaissance fauna survey of the application area in February 2010. The desktop survey identified 58 species of herpetofauna including five amphibians and 53 reptiles, 10 mammal species and 11 bird species that have been vouchered at the Western Australian Museum for the application area and surrounding areas (Keith Lindbeck and Associates, 2010b). Birds Australia listed 80 bird species for the area (Keith Lindbeck and Associates, 2010b). The reconnaissance survey recorded six mammal species, three of which were native; two reptiles and 24 bird species within the application area (Keith Lindbeck and Associates, 2010b). These results indicate that the area potentially has a high diversity of bird and reptile species.

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

##### Methodology

CALM (2002)  
Keith Lindbeck and Associates (2010a)  
Keith Lindbeck and Associates (2010b)  
GIS Database  
- IBRA WA (Regions - Subregions)

#### (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**

Keith Lindbeck and Associates conducted a desktop fauna survey and a reconnaissance field survey in February 2010. Keith Lindbeck and Associates (2010b) describes the fauna habitat within the application area as; Mulga open woodlands/shrubland, *Eucalyptus* woodland and shrubland. Keith Lindbeck and Associates (2010b) states that based on the results of the desktop survey, and habitat type available within the area, the following fauna of conservation significance have the highest potential to occur within the application area:

- Australian Bustard (*Ardeotis australis*) – Priority 4;
- Malleefowl (*Leipoa ocellata*) – Schedule 1; and
- Rainbow Bee-eater (*Merops ornatus*) – Marine and Migratory.

The Australian Bustard and Rainbow Bee-eater are both widespread, mobile species (Keith Lindbeck and Associates, 2010b). The habitat type within the application area is well represented within surrounding regions and therefore, the vegetation within the application area is not likely to represent significant habitat for these species (Keith Lindbeck and Associates, 2010b).

The Malleefowl has the potential to occur within the application area, however, this species and its nests were

not recorded during the reconnaissance survey of the application area (Keith Lindbeck and Associates, 2010b). Potential impacts to the Malleefowl, as a result of the proposed clearing, may be minimised by the implementation of a fauna management condition.

Keith Lindbeck and Associates (2010b) concludes that the application area does not contain habitat of high ecological significance from a faunal perspective, or contain faunal assemblages that are ecologically significant. The proposed clearing may cause fragmentation of vegetation, particularly in more densely vegetated areas, however, vast tracts of intact vegetation remain on both sides of the application area and within the Murchison bioregion (Keith Lindbeck and Associates, 2010b).

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

**Methodology** Keith Lindbeck and Associates (2010b)

**(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**

Keith Lindbeck and Associates conducted a flora and vegetation survey of the application area in February 2010. This survey consisted of a desktop search for Declared Rare and Priority Flora, in addition to a field reconnaissance survey (Keith Lindbeck and Associates, 2010a).

No Declared Rare Flora species were recorded during the flora and vegetation survey (Keith Lindbeck and Associates, 2010a). The following two Priority Flora species were identified during the field survey of the application area (Keith Lindbeck and Associates, 2010a):

- *Eremophila arachnoides* subsp. *arachnoides* (Priority 3); and
- *Frankenia georgei* (Priority 3).

*Eremophila arachnoides* subsp. *arachnoides* is described by the Western Australian Herbarium (1998-) as preferring shallow loam over limestone. Keith Lindbeck and Associates (2010a) reports that this species has previously been found 30 kilometres west of Laverton. Several populations of this species were recorded during the survey, with the tally exceeding 918 individuals (Keith Lindbeck and Associates, 2010a). Furthermore, several other populations were seen by the surveyor whilst driving to and from the site (Keith Lindbeck and Associates, 2010a). Given the number of populations in the area, and the linear nature of the proposed disturbance, it is considered unlikely that the proposed clearing would affect the conservation status of this species.

*Frankenia georgei* is described by the Western Australian Herbarium (1998-) as preferring rocky slopes, although Keith Lindbeck and Associates (2010a) reports that within the vicinity of the application area it was found in more saline areas at the bottom of low slopes. The Western Australian Herbarium (1998-) has numerous records of this species, primarily in the eastern goldfields region. Some of these records held by the Western Australian Herbarium (1998-) consist of populations ranging from 20 to 50 plants, with one record identifying approximately 200 plants. Keith Lindbeck and Associates (2010a) states that *Frankenia georgei* is present within, as well as outside of the application area. Keith Lindbeck and Associates (2010a) reports that the proposed disturbance will impact approximately 40 individuals from a population estimated at over 200 individuals. Given the above, the proposed clearing is unlikely to affect the conservation status of this species.

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

**Methodology** Keith Lindbeck and Associates (2010a)  
Western Australian Herbarium (1998-)

**(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 area applied to clear (GIS Database). The nearest known TEC or PEC is located approximately 30 kilometres east of the application area (GIS Database).

Keith Lindbeck and Associates (2010a) reports that no TECs or PECs were identified within the application area during the flora and vegetation survey.

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

**Methodology** Keith Lindbeck and Associates (2010a)  
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 Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion and the Great Victoria Desert IBRA bioregion (GIS Database). Shepherd (2007) reports that approximately 100% of the pre-European vegetation still exists in these bioregions (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 1239:** hummock grasslands, open medium tree and Mallee steppe; Marble Gum and Mallee (*Eucalyptus youngiana*) over hard Spinifex (*Triodia basedowii*) on sandplain.

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 - Murchison	28,120,590	28,120,590	~100	Least Concern	~1.1
IBRA Bioregion - Great Victoria Desert	21,794,205	21,784,757	~99.96	Least Concern	~8.5
<b>Beard vegetation associations - State</b>					
18	19,892,305	19,890,195	~100	Least Concern	~2.1
1239	2,234,315	2,234,315	~100	Least Concern	~11.9
<b>Beard vegetation associations - Bioregion Murchison</b>					
18	12,403,172	12,403,172	~100	Least Concern	~0.4
1239	558	558	~100	Least Concern	~41.1
<b>Beard vegetation associations - Bioregion Great Victoria Desert</b>					
18	1,954,625	1,954,625	~100	Least Concern	~9.2
1239	2,233,685	2,233,685	~100	Least Concern	~11.8

\* 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 is at variance to this Principle**

According to available databases, there are no permanent watercourses within the application area, however, there are numerous minor, ephemeral watercourses (GIS Database). These watercourses are only likely to flow following significant rainfall (Keith Lindbeck and Associates, 2010a).

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

Vegetation descriptions provided by Keith Lindbeck and Associates (2010a) indicates that the following vegetation type is likely to be found growing in association with watercourses:

**Drainage:**

*Acacia balsamea*, *Acacia aneura*, *Acacia coolgardiensis*, *Acacia craspedocarpa* tall open shrubland / open

woodland.

This vegetation type is reported by Keith Lindbeck and Associates (2010a) as being common throughout the area, both inside and outside the application area, and on the adjoining pastoral property.

Given the narrow, linear nature of the proposed clearing, the amount of vegetation associated with watercourses to be impacted by the proposal is likely to be fairly minimal. Impacts are likely to be in the form of creek crossings. A1 Minerals (2010) have procedures in place to ensure that drainage flows within watercourses aren't impeded by creek crossings.

**Methodology** A1 Minerals (2010)  
Keith Lindbeck and Associates (2010a)  
GIS Database  
- hydrography, linear

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

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

The application area has been mapped as occurring within the Ararak, Bevon, Gundockerta, Sherwood and Windarra land systems (GIS Database).

**Ararak land system:** This land system is described as consisting of broad plains with mantles of ironstone gravel, supporting mulga shrublands with Wanderrie grasses (Pringle et al., 1994). As a result of low slopes, protective soil mantles and very diffuse sheet flow, this land system is generally not susceptible to soil erosion, and is only mildly susceptible to water starvation problems (and consequent loss of vigour in vegetation) (Pringle et al., 1994).

**Bevon Land System:** Irregular low ironstone hills with stony lower slopes supporting mulga shrublands (Pringle et al., 1994). Small areas on breakaway slopes and narrow drainage tracts are susceptible to soil erosion, particularly if the perennial shrub cover is substantially reduced or the soil surface is disturbed (Pringle et al., 1994). No drainage tracts are present within the section of this land system that falls within the application area, thereby reducing the risk of soil erosion within this land system (GIS Database).

**Gundockerta land system:** This land system consists of extensive, gently undulating, calcareous, stony plains, supporting bluebush shrublands. Pringle et al. (1994) report that saline plains and adjacent lower alluvial tracts are susceptible to water erosion in areas not protected by a stony mantle, particularly in areas where perennial shrub cover is substantially reduced and / or the soil surface is disturbed. No drainage lines are present within the section of this land system that falls within the application area, thereby reducing the risk of soil erosion within this land system (GIS Database).

**Sherwood Land System:** Granite breakaways and extensive stony plains with mulga shrublands and minor halophytic shrublands (Pringle et al., 1994). Lower footslopes, alluvial plains and drainage tracts generally have fragile soils which are highly susceptible to water erosion (Pringle et al., 1994). An ephemeral drainage line transects the application area within this land system (GIS Database). Therefore, the clearing of native vegetation may exacerbate soil erosion in this area.

**Windarra Land System:** This system is reported by Pringle et al. (1994) as consisting of stony plains with quartz mantles, supporting *Acacia – Eremophila* shrublands. Pringle et al. (1994) report that hardpan units and drainage floors are mildly susceptible to soil erosion whereas elsewhere, soil mantles provide effective protection against erosion. No watercourses occur within the section of this land system that lies within the application area, thereby reducing the risk of soil erosion within this land system.

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

Given the flat topography of the application area and the narrow, linear nature of clearing, the proposed clearing is unlikely to cause significant land degradation. The risk of soil erosion could be mitigated by a condition requiring that operations to construct a haul road begin within two months of clearing.

**Methodology** Pringle et al. (1994)  
GIS Database  
- hydrography, linear  
- rangeland land system mapping

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

**Comments Proposal is not at variance to this Principle**

The proposed clearing is not located within any conservation areas (GIS Database). There are no conservation reserves within 100 kilometres of the application area (GIS Database).

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

**Methodology** GIS Database  
- DEC Tenure

**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

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

There are no permanent watercourses or wetlands within the application area, however, there are several ephemeral drainage lines (GIS Database).

Rainfall within the region is low and the topography of the application area is primarily flat, minimising sheet flow (A1 Minerals, 2010). Due to the porous nature of the soils in the area, most of the surface water in the region evaporates or soaks through to the sub surface strata (A1 Minerals, 2010).

Clearing of native vegetation in a narrow, linear area, is unlikely to cause deterioration in the quality of surface or underground water.

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

**Methodology** A1 Minerals  
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, several ephemeral drainage lines transect the application area (GIS Database). These watercourses are only likely to flow during times of high rainfall and flash flooding. Flash flooding is known to occur occasionally in the Laverton area, however, floodwaters rapidly rise and disperse (A1 Minerals, 2010).

A1 Minerals (2010) reports that the application area traverses a floodplain. The floodplain area does not comprise standing water and is likely to become inundated only during substantial rain events (A1 Minerals, 2010). Due to the porous nature of the soil, the water is unlikely to pool for any significant period of time (A1 Minerals, 2010).

A1 Minerals (2010) reports that the risk of flooding will be mitigated by removing the wind-rowed top soil from the section of haul road that crosses the floodplain to areas outside the designated floodplain, so that any flow of surface water across the road will not be impeded.

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

**Methodology** A1 Minerals  
GIS Database  
- hydrography, linear

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

**Comments**

There is one Native Title Claim (WC 99/001) 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 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 by the Department of Mines and Petroleum on 14 June 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 is at variance to Principle (f), may be at variance to Principles (a) and (g), is not likely to be at variance to Principles (b), (c), (d), (i) and (j) and is not at variance to Principles (e) and (h).

## 5. References

- A1 Minerals (2010) Clearing Permit Application Supporting Documentation. A1 Minerals Limited, Western Australia
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, 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.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Keith Lindbeck and Associates (2010a) Proposed Alpha-Beta Haul Road: Flora and Vegetation Survey. Unpublished report. Keith Lindbeck and Associates Environmental Management Consultants, Western Australia.
- Keith Lindbeck and Associates (2010b) Proposed Alpha-Beta Haul Road: Flora and Vegetation Survey. Unpublished report. Keith Lindbeck and Associates Environmental Management Consultants, Western Australia.
- Pringle, H., Van Vreeswyk, A. and Gilligan, S. (1994) An Inventory and condition survey of the north-eastern Goldfields, Western Australia. Technical Bulletin 87. Department of Agriculture, Western Australia.
- Shepherd, D.P. (2007) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/>.

## 6. Glossary

### Acronyms:

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