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

# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

**Permit application No.:** 4121/1
**Permit type:** Purpose Permit

### 1.2. Proponent details

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

### 1.3. Property details

**Local Government Area:** Mining Lease 15/646
Mining Lease 15/660
Mining Lease 15/958
Mining Lease 15/1114
Mining Lease 15/1293
Mining Lease 15/1294
**Colloquial name:** Open Pits Project

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|---|---|---|---|
| 40 | | Mechanical Removal | Mineral Production |

### 1.5. Decision on application

**Decision on Permit Application:** Grant
**Decision Date:** 10 February 2011

## 2. Site Information

### 2.1. Existing environment and information

#### *2.1.1. Description of the native vegetation under application*

**Vegetation Description**

Beard vegetation associations have been mapped at a 1:250,000 scale for the whole of Western Australia. The vegetation of the application area is broadly mapped as Beard vegetation association 9: Medium woodland; Coral Gum (*Eucalyptus torquata*) and Goldfields Blackbutt (*E. lesouefii*) (GIS Database; Shepherd, 2009).

Botanist van Etten (2009) conducted a flora survey of the application area on the 4th and 5th November 2009, and described the vegetation of the application area as follows:

1. Woodland of Silver Gimlet (*Eucalyptus campaspe*) – Mirret (*E. celastroides*) on undulating Greenstone rises and slopes: These woodlands are dominated by *Eucalyptus campaspe* (Silver Gimlet) and *E. celastroides* subsp. *celastroides,* with other eucalypts such as *E. clelandii, E. salmonophloia* and *E. transcontinentalis* also scattered throughout. Understorey is dominated by chenopod shrubs, particularly *Atriplix nummularia* (Old Man Saltbush) and *A. vesicaria* (Bladder Saltbush). This community appears confined to shallow to skeletal soil on greenstone low rises and slopes;
2. Open Woodland of Salmon Gum (*Eucalyptus salmonophloia*) on broad valley system – The most widespread community of the area, it consists of open to very open woodland of *E. salmonophloia,* with patches *of E. transcontinentalis* in places. Understorey is relatively open and patchy and is dominated by chenopods including *Atriplex vesicaria, A. nummularia,* various *Maireana* sp. (Bluebushes) and *Sclerolaena* sp*, Olearia muelleri* (Goldfield's Daisy), *Exocarpos aphyllus* and *Senna artemisioides* subsp. *filifolia.* Soils are deep calcareous earths;
3. Woodland of *Eucalyptus griffithsii* on Greenstone hilltops – This community consists of open woodland of *E. griffithsii* (Griffith's Grey Gum). Common understorey species include *Olearia muelleri, Ptilotus obovatus, Eremophila interstans* subsp. *virgata, Dodonaea lobulata, Eremophila oldfieldii* subsp. *angustifolia, Avavia tetragonophylla, Senna artemisioides* subsp. *filifolia, Avacia quadrimarginea, Atriplex* sp. and *Scaevola spinescens.* Appears on shallow, rocky soils on greenstone hilltops*;*
4. Woodland of Cleland's Blackbutt (*Eucalyptus clelandii*) on Greenstone rises with quartz and calcareous soils – Cleland's Blackbutt (*E. clelandii*) occurs throughout the greenstone hills and rises of the study area, with numerous quartz and iron-rich rocks on the surface and skeletal soils. Other eucalypts such as *E. clelandii* and *E. torquata* (Coral Gum) also occur in this community but never dominate. Understorey is sparse with the most common species being *Atriplex nummularia, Acacia erinacea, Maireana triptera, Eremophila oldfieldii* subsp. *angustifolia, E. interstans* subsp. *interstans, Eremophila parvifolia* subsp. *auricampa* and *Enchylaena tomentose;* and
5. Mine site disturbance and rehabilitation: Small and mostly short-lived chenopods such as *Sclerolaena* sp*., Maireana* sp*., Atriplex* sp*.,* and *Salsola tragus* (van Etten, 2009).

**Clearing Description**

Focus Minerals Limited is proposing to clear up to 40 hectares of native vegetation for the Open Pits Project (Focus Minerals Limited, 2010). The clearing of vegetation is required to establish Happy Jack, Alicia, Deadnought North and Cookes mining projects, and associated infrastructure including waste landforms, haul roads, access roads,

run of mine pads, laydown yards, go bays and workshop areas.

The vegetation will be cleared using a wheeled loader or dozer with vegetation stockpiled for use in rehabilitation.

**Vegetation Condition**

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994);

To

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

**Comment**

The application area is located in the Eastern Goldfields subregion of Western Australia and is situated approximately two kilometres south of the Coolgardie town site (GIS Database).

The vegetation condition was derived from a vegetation survey conducted by van Etten (2009). The vegetation conditions have been converted to the corresponding conditions from the Keighery (1994) scale.

## 3. Assessment of application against clearing principles

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

**Comments**

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

The application area occurs within the Eastern Goldfields subregion of the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by gently undulating plains interrupted in the west with low hills and a series of large playa lakes in the western half (CALM, 2002). The vegetation is dominated by Mallees, Acacia thickets and shrub-heaths on sandplains, diverse Eucalyptus woodlands occur around salt lakes, on ranges, and in valets, and dwarf shrublands of samphire around salt lakes (CALM, 2002).

The vegetation within the application area consists of Beard vegetation association 9, which is common and widespread throughout the Coolgardie bioregion with approximately 99.76% of the pre-European vegetation extent remaining (Shepherd, 2009; GIS Database). A vegetation survey on the 4th and 5th of November 2009 of the application area and surrounding vegetation identified 64 species of flora taxa belonging to 31 Genera and 19 Families (van Etten, 2009). No Declared Rare Flora (DRF) or Priority flora species were found. A search on the Department of Environment and Conservation Declared Rare and Priority Flora databases revealed that one DRF (*Gastrolobium graniticum*) and six Priority species may potentially occur in the application area (van Etten, 2009). No Threatened Ecological Communities or Priority Ecological Communities were recorded or identified within the application area (GIS Database).

van Etten (2009) found three weed species within the application area. These were: *Pandanus* sp., *Opuntia stricta* (Common Prickly Pear) and *Erodium cicutarium* (Common Storksbill). None of these species are listed as a 'Declared Plant' species under the *Agriculture and Related Resources Protection Act 1976* by the Department of Agriculture and Food. Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to the biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Five vegetation types as described by van Etten (2009) were identified within the application area. The vegetation conditions ranged from 'good' to 'degraded'. Four of the vegetation types were classified as a 'degraded' condition, and one vegetation type (Woodland of the *Eucalyptus griffithsii* on Greenstone hilltops) was classified as a 'good' condition. The degradation of the application area is primarily due to active and past mining activities and poor rehabilitation conditions (van Etten, 2009).

Given the highly disturbed nature of the application area, the area has a low ecological value for faunal habitats. Only those sections around the southern periphery are in reasonable condition and have a slightly higher ecological value (Terrestrial Ecosystems, 2009). The faunal habitats present are common and widespread within the subregion and fauna assemblages are unlikely to be different to that found in similar habitat located elsewhere in the region (Terrestrial Ecosystems, 2009).

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

**Methodology**

CALM (2002)
Keighery (1994)
Shepherd (2009)
Terrestrial Ecosystems (2009)
van Etten (2009)
GIS Database:
- IBRA WA (Regions - Subregions)
- Pre-European vegetation
- Threatened Ecological Sites Buffered

**(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.**

**Comments**

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

Terrestrial Ecosystems (2009) conducted a level one fauna survey of the application area on the 1st October, 2009. No fauna trapping surveys were undertaken. The survey identified three broad fauna habitat types:

1. Large patches containing a few scattered trees and low shrubs (mostly *Atriplex* sp. and *Maireana* sp.) and grasses. Some of these in the northern sections are the result of earlier rehabilitation programs;
2. Eucalypt woodlands of varying densities that is mostly around the periphery or the southern section of the project area. Leaf litter is generally scarce except immediately under Blackbutt (*E. lesouefii*) and other well established eucalypts and acacias; and
3. Large areas of disturbed habitat, including pits, waste dumps and mining infrastructure (Terrestrial Ecosystems, 2009).

The majority of the application area has been classified as having 'highly degraded' fauna habitat with only minor sections in the southern boundary of the application area consisting of fauna habitats that were classified as 'good' condition (Terrestrial Ecosystems, 2009). No significant fauna habitats were identified by Terrestrial Ecosystems (2009) or in aerial photography (GIS Database), and the habitat present within the application areas is abundant within the Eastern Goldfields subregion (Terrestrial Ecosystems, 2009).

There are three species of mammals, one volant mammal, one insect and seven species of birds listed as Threatened Species under the *Environmental Protection and Biodiversity Conservation Act (EPBC) 1999 or* protected under Western Australian legislation, that may potentially occur within the application area (Western Australian Museum, 2010; Terrestrial Ecosystems, 2009). Of these species, the Malleefowl (*Leipoa ocellata*), Shy Heathwren (*Hylacola cauta whitlocki*), Australian Bustard (*Ardeotis australis*), Western Rosella (*Platycercus icterotis xanthogenys*) and Greater Long-eared Bat (*Nyctophilus timoriensis*) may occupy areas within the application areas due to potential suitable faunal habitats occurring in the area (Western Australian Museum, 2010; Terrestrial Ecosystems, 2009).

There was no evidence of the Malleefowl or mounds or tracks in the application area, and due to the lack of building material for mound construction it is unlikely that the Malleefowl will be significantly impacted by the proposed clearing. The application area is not likely to represent significant habitat for the other birds listed above, and these birds will most likely move to adjacent areas once clearing commences (Terrestrial Ecosystems, 2009; Atlas of Living Australia, 2010).

The Greater Long-eared Bat roosts in tree cavities, foliage and under loose bark. Given the degradation of the habitats present and the small representation of suitable habitat in the application area, it is not likely that the proposed clearing will have a significant impact on fauna habitat for the bat (Terrestrial Ecology, 2009; Atlas of Living Australia, 2010).

Given the extent of the previous disturbance and habitat degradation, the proposed clearing is not likely to significantly impact indigenous fauna in a local or bioregional context (Terrestrial Ecosystems, 2009). The fauna habitats do not provide an ecological linkage or fauna movement corridors, and the fauna habitat present is a poor representation of similar fauna habitats represented in the region.

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

**Methodology**

Atlas of Living Australia (2010)
Terrestrial Ecosystems (2009)
Western Australian Museum (2010)
GIS Database:
- Kalgoorlie 50cm Orthomosaic - Landgate 2006

**(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**

Searches made on the available GIS Databases reveal that there are no known records of Declared Rare Flora (DRF) existing in the application area, or within the local area (10 kilometre radius) (GIS Database).

A flora survey was conducted by a botanist on the 4th and 5th of November, 2009 (van Etten, 2009). There were no DRF recorded in the application area (van Etten, 2009). A search of DEC's online flora and fauna database (NatureMap) by van Etten (2009) representing a 10 kilometre radius around the application area revealed that the DRF species *Gastrolobium graniticum* may occur within the application area or surrounding 10 kilometre radius (DEC, 2010). *Gastrolobium graniticum* is a tall, open and erect shrub favouring the bases of granite outcrops, particularly along drainage lines (DEC, 2010; van Etten, 2009). Despite specific and intensive searching for such taxa, *Gastrolobium graniticum* and its preferred habitat were not found within the application area; therefore it is unlikely that this species occurs within the application area (van Etten, 2009).

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

**Methodology** DEC (2010)
van Etten (2009)
GIS Database:
- Declared Rare and Priority Flora List

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

**Comments** **Proposal is not at variance to this Principle**
A search of the available databases shows that there are no Threatened Ecological Communities (TEC's) within the application area (GIS Database). There are no TEC's situated 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
- Threatened Ecological Sites Buffered

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

**Comments** **Proposal is not at variance to this Principle**
The application area falls within the Coolgardie IBRA bioregion (GIS Database). Shepherd (2009) reports that 98.42% of the pre-European vegetation still exists in this bioregion. Beard vegetation association 9 retains approximately 99.76% of its pre-European extent, which is more than the 30% threshold level recommended in the National Objectives Targets for Biodiversity Conservation below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000).

The vegetation within the application area is recorded as Beard vegetation association 9: Medium woodland; Coral Gum (*Eucalyptus torquata*) & Goldfields Blackbutt (E. *lesouefii*) (GIS Database; Shepherd, 2009).

According to Shepherd (2009) approximately 99.76% of the Beard vegetation association remains within the Coolgardie bioregion (see table below).

| | Pre-European area (ha)* | Current extent (ha)* | Remaining %* | Conservation Status** | Pre-European % in IUCN Class I-IV Reserves |
|---|---|---|---|---|---|
| IBRA Bioregion - Coolgardie | 12,912,204 | 12,707,873 | ~98.42 | Least Concern | 10.87 |
| Beard vegetation associations - State | | | | | |
| 9 | 240,509 | 239,928 | ~99.76 | Least Concern | 1.26 |
| Beard vegetation associations - Bioregion | | | | | |
| 9 | 240,442 | 239,867 | ~99.76 | Least Concern | 1.26 |

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

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

**Methodology** Department of Natural Resources and Environment (2002)
EPA (2000)
Shepherd (2009)
GIS Database:
- IBRA WA (regions - subregions)
- Pre-European Vegetation

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

**Comments** **Proposal is not likely to be at variance to this Principle**
Aerial imagery illustrates that there are two small man-made water bodies within the application area (GIS Database; Focus Minerals Limited, 2010). van Etten (2009) found no vegetation units associated with the

constructed water bodies within the application area and these water bodies are not within the proposed clearing areas. The nearest significant permanent water body is Brown Lake, which is located in nine kilometres east of the application area (GIS Database; Focus Minerals Limited, 2010).

There are numerous drainage lines found within the application area which flow in a south-east direction (GIS Database), however van Etten (2009) found no associated vegetation units (Focus Minerals Limited, 2010). The application area is located within a semi-arid region where the annual evaporation rate exceeds the annual rainfall (BoM, 2010), therefore these drainage lines are expected to be dry except following significant rain events which are typically associated with tropical cyclones.

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

**Methodology**
BoM (2010)
Focus Minerals Limited (2010)
van Etten (2010)
GIS Database:
- Geodata, Lakes
- Hydrography, Linear
- Kalgoorlie 50cm Orthomosaic - Landgate 2006

**(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 lies within the Coolgardie bioregion (GIS Database), on Yilgarn Craton's 'Eastern Goldfields Terrains' (CALM, 2002). Landforms of the Coolgardie bioregion include granite rocky outcrops, low greenstone hills, laterite uplands and broad plains (Bastin, G., and the ACRIS Management Committee, 2008). Over-grazing by stock and rabbits is the major cause of land degradation and the Eastern Goldfields subregion is not likely to be susceptible to erosion (Morton, Short & Barker, 1995).

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

**Methodology**
Bastin, G., and the ACRIS Management Committee (2008)
CALM (2002)
Morton, Short & Baker (1995)
GIS Database:
- IBRA WA (Regions - Subregions)

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

**Comments**

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

The proposed application area is not located within any conservation areas (GIS Database). The nearest conservation area is the Kangaroo Hills Timber Reserve, located approximately 500 metres west of the application area (GIS Database).

The application area is not expected to have a significant impact on the Kangaroo Hills Timber Reserve. The Kangaroo Hills Timber Reserve is an area of approximately 13,614.8 hectares and the vegetation types and fauna habitats are well represented within the area (GIS Database, Terrestrial Ecosystems, 2009). The application area currently does not provide an important ecological linkage or fauna movement corridor, so linkages and fauna movement to the Kangaroo Hills Timber Reserve will not be adversely affected (Terrestrial Ecosystems, 2009).

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

**Methodology**
Terrestrial Ecosystems (2009)
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**

The available databases show that the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The application area contains numerous drainage lines, and the nearest permanent water body (Brown Lake) nine kilometres east of the application area (GIS Database).

There are numerous drainage lines within the application area which only flow during and following substantial rainfall (GIS Database; Focus Minerals Limited, 2010). The application area receives an average annual rainfall of 271 millimetres/year, with an average annual pan evaporation rate of 2,400 - 2,800 millimetres/year (BoM,

2010), and there is little surface flow during normal rainfall seasons as the annual evaporation rate exceeds the annual rainfall (Focus Minerals Limited, 2010). However, substantial rainfall events create surface sheet flow which is likely to have higher level of sediments. During normal rainfall events, the proposed clearing would not likely to lead to an increase in sedimentation of drainage lines within the application area. Focus Minerals Limited (2010) will put in place drains and bunds as required during open pit mining to divert surface runoff and sheet wash around mining areas and into Lake Brown.

The application area has saline (14,000 - 35,000 milligrams/Litre Total Dissolved Solids (TDS)) groundwater (GIS Database). The water will be sampled and recorded as baseline data set to determine the quality of water prior to the commencement of mining, and the water table level will also be mapped and measured in accordance to mine design plans (Focus Minerals Limited, 2010). The clearing of native vegetation within the application area is not likely to deteriorate the quality of underground water.

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

**Methodology**

BoM (2010)
Focus Minerals Limited (2010)
GIS Database:
- Geodata, Lakes
- Groundwater Salinity, Statewide
- Hydrography, Linear
- Public Drinking Water Source Areas

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

**Comments**

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

The application area experiences a semi-arid climate with an average annual rainfall of 271 millimetres/year recorded at the nearest weather station at the Coolgardie Post Office, approximately two kilometres north from the application area (BoM, 2010). The application area experiences a relatively high average annual evaporation rate of approximately 2,400-2,800 millimetres (BoM, 2010).

The application area is within the Lake Lefroy catchment area (GIS Database). The size of the area to be cleared (40 hectares) compared to the size of the catchment area (2,488,251 hectares) (GIS Database) is not likely to increase the potential for flooding within the application area, local area, or within the catchment. Shepherd (2009) vegetation statistics indicate that approximately 98.42% of the pre-European vegetation extent remains within the Coolgardie Interim Biogeographic Regionalisation for Australia (IBRA) region. Vegetation is considered an important ground cover as it slows surface water flows, and enables rainwater to infiltrate the soil to depths where it can be utilised by vegetation. Given that the Coolgardie bioregion remains largely uncleared, the proposed clearing is not likely to impact on the drainage characteristics of the Lake Lefroy catchment area.

Given that the application area is within a highly degraded area due to previous mining, surface drainage is somewhat altered by the existing open pits and waste landforms (GIS Database). There has been no incidence of flooding within the area since mining first commenced in the area (Focus Minerals Limited, 2010).

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

**Methodology**

BoM (2010)
Focus Minerals Limited (2010)
Shepherd (2009)
GIS Database:
- Hydrographic Catchments - Catchments
- Hydrography, Linear

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

**Comments**

The clearing permit application was advertised on 14 January 2011 by the Department of Mines and Petroleum inviting submissions from the public. One submission was received in relation to this application regarding Aboriginal heritage issues. A written response was provided on the matters raised.

There is one Native Title Claim (WC98/27) over the area under application (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are three registered Aboriginal Sites of Significance within the application area (site IDs: 3008, 1568 and 1475) (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.

**Methodology**

GIS Database:
- Aboriginal Sites of Significance
- Native Title Determined
- Native Title Federal
- Natitve Title NNTT

## 4. References


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## 5. Glossary

### Acronyms:

| | |
|---|---|
| **BoM** | Bureau of Meteorology, Australian Government |
| **CALM** | Department of Conservation and Land Management (now DEC), Western Australia |
| **DAFWA** | Department of Agriculture and Food, Western Australia |
| **DEC** | Department of Environment and Conservation, Western Australia |
| **DEH** | Department of Environment and Heritage (federal based in Canberra) previously Environment Australia |
| **DEP** | Department of Environment Protection (now DEC), Western Australia |
| **DIA** | Department of Indigenous Affairs |
| **DLI** | Department of Land Information, Western Australia |
| **DMP** | Department of Mines and Petroleum, Western Australia |
| **DoE** | Department of Environment (now DEC), Western Australia |
| **DoIR** | Department of Industry and Resources (now DMP), Western Australia |
| **DOLA** | Department of Land Administration, Western Australia |
| **DoW** | Department of Water |
| **EP Act** | Environmental Protection Act 1986, Western Australia |
| **EPBC Act** | Environment Protection and Biodiversity Conservation Act 1999 (Federal Act) |
| **GIS** | Geographical Information System |
| **ha** | Hectare (10,000 square metres) |
| **IBRA** | Interim Biogeographic Regionalisation for Australia |

| | |
|---|---|
| **IUCN** | International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union |
| **RIWI Act** | Rights in Water and Irrigation Act 1914, Western Australia |
| **s.17** | Section 17 of the Environment Protection Act 1986, Western Australia |
| **TEC** | Threatened Ecological Community |

## Definitions:

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

**P1** **Priority One - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

**P2** **Priority Two - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

**P3** **Priority Three - Poorly Known taxa**: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.

**P4** **Priority Four – Rare taxa**: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.

**R** **Declared Rare Flora – Extant taxa** *(= Threatened Flora = Endangered + Vulnerable)*: taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

**X** **Declared Rare Flora - Presumed Extinct taxa**: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

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

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

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

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

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

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

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

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

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

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

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

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

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

**EX(W)** **Extinct in the wild:** A native species which:

(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or

(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.

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

**EN** **Endangered:** A native species which:

(a) is not critically endangered; and

(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

**VU** **Vulnerable:** A native species which:

(a) is not critically endangered or endangered; and

(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

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