



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 3562/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: **Alcoa of Australia Ltd**

### 1.3. Property details

Property: *Alumina Refinery (Pinjarra) Agreement Act 1969*, Lot 151 on Plan 10914 & Lot 251 on Plan 35963

Local Government Area: Shire of Murray

Colloquial name: N/A

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|---------------------|
| 45.3               |           | Mechanical Removal | Mineral Production  |

## 2. Site Information

### 2.1. Existing environment and information

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

| Vegetation Description   | Clearing Description  | Vegetation Condition  | Comment  |
|--|---|---|--|
| <p>The area applied to clear has been broadly mapped at a scale of 1:250,000 as: Beard Vegetation Association 968: Medium woodland; Jarrah, Marri &amp; Wandoo (GIS Database).</p> <p>Woodman Environmental Consulting Pty Ltd (2004) undertook a vegetation survey of an area of approximately 154 hectares (including the proposed clearing area) in October and November 2004.</p> <p>Vegetation of the proposed clearing area was described as follows:</p> <ol style="list-style-type: none"> <li>1. Areas extensively planted with predominantly eastern states Eucalypt species;</li> <li>2. Cleared (pasture) areas;</li> <li>3. Previously cleared areas that contain regenerating native vegetation; and</li> <li>4. Artificial water-bodies.</li> </ol> <p>Alcoa of Australia Ltd (2010) has advised that the proposed clearing area also includes some isolated remnant native trees.</p> <p>The assessing officer notes that the vegetation of the application area does not resemble Beard Vegetation Association 968.</p> | <p>Alcoa of Australia Ltd has applied to clear 45.3 hectares of land at its residue operations adjacent to the Pinjarra refinery. The proposed clearing will allow the proponent to construct a new cooling pond.</p> <p>Vegetation will be mechanically cleared and will be mulched, burnt or used in rehabilitation. Topsoil is heavily infested with weeds and is unlikely to be retained (Alcoa of Australia Ltd, 2010).</p> <p>The proposed cooling pond will be a permanent piece of infrastructure at the site. Rehabilitation will consist of planting screening native vegetation on the outer batters of the cooling pond (Alcoa of Australia Ltd, 2010).</p> | <p>Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)</p> | <p>The vegetation condition rating is derived from information provided by Woodman Environmental Consulting Pty Ltd (2004), Alcoa of Australia Ltd (2010) and analysis of aerial photography (GIS Database).</p> |

## 3. Assessment of application against clearing principles

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

**Comments** **Proposal is not likely to be at variance to this Principle**  
The proposed clearing is located within the Swan Coastal Plain Interim Biogeographic Regionalisation of

Australia (IBRA) bioregion, and the Perth IBRA subregion (GIS Database). The Swan Coastal Plain is a part of the South West Botanical Province, which has a high degree of species diversity (Mitchell et al., 2002).

The area under application is rehabilitated pastoral land, and cannot be considered representative of an area of outstanding biodiversity in the bioregion. The area is surrounded by current residue storage areas to the north and west, the refinery access road and car parks to the east and the residue access road to the south (Alcoa of Australia Ltd, 2010). Weeds (pastoral grasses) are widespread. The proposed clearing area is a paddock, planted with local and non-local species and some remnant isolated Marri and Jarrah trees. It is unlikely that the area comprises of higher biodiversity values than uncleared native vegetation in the local or regional area.

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

**Methodology** Alcoa of Australia Ltd (2010).  
Mitchell et al (2002).  
GIS Database:  
- IBRA WA (Regions - Sub Regions).

**(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**

Bamford Consulting Ecologists (2009) was commissioned by the proponent to inspect the proposed clearing area and suggest ways of managing impacts to fauna. Bamford Consulting Ecologists visited the site on 28 October 2009 and provided the following advice:

The proposed clearing area consists mostly of planted Eucalypts with weedy (mainly grassy) understorey. Artificial water sources such as drains and a small lake are present. Roads and buildings are also present. The site is surrounded by fences, roads, buildings and other infrastructure, thereby providing limited movement of terrestrial fauna into or out of the site (Bamford Consulting Ecologists, 2009).

A mob of approximately 40 Western Grey Kangaroos were observed at the site, although the mob may be twice this size. Limited opportunity exists to relocate Kangaroos given they are surrounded by roads and infrastructure. Progressive clearing in a north-south direction is most likely the best option to allow Kangaroos to move from the site into surrounding farmland in their own time, although an opening would need to be made in the boundary fence to allow this (Bamford Consulting Ecologists, 2009).

The Southern Brown Bandicoot/Quenda (*Isodon obesulus*) has been known to occur in the local area. No evidence of this species was found during the site visit. The amount of available habitat is very limited. It is unlikely that this species persists at the site (Bamford Consulting Ecologists, 2009).

Drains and lakes may support Long-necked Tortoises, although none were found during the site visit. Draining the artificial lake prior to clearing would allow any tortoises present to be removed and released into wetlands nearby. Trapping in the drain could be undertaken prior to clearing (Bamford Consulting Ecologists, 2009). The assessing officer notes that the artificial water sources in the proposed clearing area are small and are unlikely to constitute significant fauna habitat in comparison to natural watercourses in the surrounding vicinity (GIS Database).

Various reptiles are likely to be present on site, and reptile mortality is inevitable during clearing operations (Bamford Consulting Ecologists, 2009). The site cannot be considered as significant habitat for any reptile species given its isolation and level of degradation.

Common birds such as Magpies, Australian Ringnecks (28 Parrot) and New Holland Honeyeaters were observed during the site visit. Most birds will fly away from the site at the onset of clearing. Smaller birds may be more reluctant to move. Some bird species may be breeding at the time of clearing, and as such, birds nests and some tree hollows may need to be checked for chicks (Bamford Consulting Ecologists, 2009).

The proponent has taken recommendations made by Bamford Consulting Ecologists (2009) into consideration and has applied to the Nature Protection Branch of the Department of Environment and Conservation for a licence to remove and relocate fauna from the proposed cooling pond site to suitable surrounding habitat.

The proposed clearing area contains limited native vegetation and is characterised by extensive disturbances, including weeds, historical clearing, grazing and infrastructure. On this basis, it is unlikely that the area is representative of significant fauna habitat for any fauna species indigenous to Western Australia.

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

**Methodology** Alcoa of Australia Ltd (2010).  
Bamford Consulting Ecologists (2009).  
GIS Database:  
- Hydrography, linear.

**(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**

According to available GIS Databases, there are no known records of Declared Rare Flora (DRF) or Priority Flora taxa within the proposed clearing area (GIS Database). A number of Rare and Priority Flora taxa have been recorded within a five kilometre radius: *Anthocercis gracilis* (R), *Synaphea stenoloba* (R), *Boronia tenuis* (P4) and *Calothamnus graniticus subsp. leptophyllus* (P4) (GIS Database).

Woodman Environmental Consulting Pty Ltd (2004) undertook a vegetation survey of 154 hectares of Pinjarra farmlands (including the area subject to this clearing permit application) in October and November 2004. No DRF taxa were recorded. One individual specimen of one Priority Flora taxa, *Calothamnus graniticus subsp. leptophyllus* (P4), was recorded near an artificial waterbody in an area of planted vegetation. It is noted that this specimen was grown at Alcoa World Alumina Australia's Marrinup nursery and planted as part of a project to re-establish restricted flora (Woodman Environmental Consulting Pty Ltd, 2004). This specimen is not located within the proposed clearing area. No other Priority Flora taxa were recorded during the survey (Woodman Environmental Consulting Pty Ltd, 2004).

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

**Methodology** Woodman Environmental Consulting Pty Ltd (2004).  
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**

According to available GIS Databases, there are no known Threatened Ecological Communities (TEC's) within the proposed clearing area (GIS Database).

Woodman Environmental Consulting Pty Ltd (2004) undertook a vegetation survey of 154 hectares of Pinjarra Farmlands (including the area subject to this clearing permit application) in October and November 2004. A majority of the surveyed area was mapped as cleared pasture or areas extensively planted with eastern states Eucalypt species. Two very small areas of remnant native vegetation were mapped and were noted to be potential remnants of TEC 3a. Another small area was noted as having similarities with TEC 20a. None of the potential TEC remnants were mapped from the area subject to this clearing permit application (Woodman Environmental Consulting Pty Ltd, 2004).

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

**Methodology** Woodman Environmental Consulting Pty Ltd (2004).  
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 likely to be at variance to this Principle**

The proposed clearing area predominantly consists of cleared land, weeds (mainly pastoral grasses) and plantation Eucalypt species. A few remnant native trees are present (Alcoa of Australia Ltd, 2010). No vegetation communities were described from the proposed clearing area during a vegetation survey conducted by Woodman Environmental Consulting Pty Ltd (2004). The proposed clearing area does not resemble any Beard Vegetation Associations.

The proposed clearing area cannot be considered as a significant remnant of native vegetation in an area that has been extensively cleared.

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 - Sub Regions).  
- 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**

There are no natural wetlands or watercourses in the proposed clearing area (GIS Database). Artificial waterbodies such as drains and dams are present, supporting emergent aquatic vegetation (GIS Database; Woodman Environmental Consulting Pty Ltd, 2004; Bamford Consulting Ecologists, 2009).

Should a clearing permit be granted, all artificial water sources in the proposed clearing area will be removed to allow construction of a new cooling pond. However, given the anthropocentric nature of the water sources to be cleared, it is considered that the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Bamford Consulting Ecologists (2009).  
Woodman Environmental Consulting Pty Ltd (2004).  
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 is not likely to be at variance to this Principle**

The proposed clearing area is located on the Guildford Landform unit, described as a flat plain with medium textured deposits, with yellow duplex soils. This landform unit occurs along the eastern fringe of the Swan Coastal Plain (Woodman Environmental Consulting Pty Ltd, 2004).

Alcoa of Australia Ltd (2010) does not consider that the proposed clearing and subsequent construction works will create any significant erosion issues. Drains with flat gradients are used to minimise the erosion potential of surface water flows. Should any significant erosion occur, works will be conducted to repair drains as necessary (Alcoa of Australia Ltd, 2010).

The assessing officer concurs with Alcoa of Australia Ltd's assessment of erosion potential of the proposed clearing area.

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

**Methodology** Alcoa of Australia Ltd (2010).  
Woodman Environmental Consulting Pty Ltd (2004).

**(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 area is not located within a conservation reserve (GIS Database). The Marrinup State Forest is located approximately 2.3 kilometres to the east (GIS Database).

The proposed clearing area is predominantly plantation vegetation on cleared farmland and is surrounded by infrastructure associated with the existing refinery (Alcoa of Australia Ltd, 2010). As such, the proposed clearing area cannot be considered as a buffer or ecological linkage to any conservation area.

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

**Methodology** Alcoa of Australia Ltd (2010).  
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**

Proposal is not likely to be at variance to this Principle

There are no natural surface water features in the proposed clearing area (GIS Database; Alcoa of Australia Ltd, 2010). A series of artificial drains and dams will need to be removed to allow construction of the new cooling pond. New dams and drains will need to be constructed (and some existing drains modified) to ensure surface water flows are appropriately re-directed around the cooling pond site (Alcoa of Australia Ltd, 2010).

Increased surface water run-off from newly disturbed land during and after construction works has the potential to increase sedimentation of local drainage channels. The proponent notes that a clean water detention pond will be constructed in the south-west corner of the cooling pond site to capture all water draining south. The Barritt Brook detention pond will capture all water draining north. Culverts will be installed under the ramp in the north-east corner of the proposed cooling pond. Sediment will settle out in the detention ponds prior to being

pumped to a water storage reservoir, extracted for operational use or released in to natural drainage (Alcoa of Australia Ltd, 2010).

Nutrient export from the proposed clearing area into local waterways is not likely to increase significantly following clearing. Engineering controls (culverts, drains and detention ponds) will be used to manage surface water flows post clearing in a similar fashion to current surface water management practices at the site.

The proponent has obtained a Bed and Banks Permit from the Department of Water under section 17 of the *Rights in Water and Irrigation Act 1914* to obstruct or interfere with surface water drainage within and surrounding the proposed clearing area (Alcoa of Australia Ltd, 2010; Department of Water, 2010).

The proposed clearing area is not located within a Public Drinking Water Source Area (GIS Database). It is considered unlikely that the proposed clearing would significantly impact upon groundwater.

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

**Methodology** Alcoa World Alumina Australia (2010).  
Department of Water (2010).  
GIS Database:  
- 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**

There are no natural wetlands or watercourses in the proposed clearing area (GIS Database). A series of drains and dams in the proposed clearing area will need to be removed to construct the proposed cooling pond. Alcoa of Australia Ltd (2010) will undertake drainage control works to re-direct surface water flows around the proposed cooling pond site.

Existing table drains outside the cooling pond site will need to have their capacity increased to handle an increased catchment area (Alcoa of Australia Ltd, 2010). An increase in the incidence or intensity of flooding is considered unlikely.

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

**Methodology** Alcoa of Australia Ltd (2010).  
GIS Database:  
- Hydrography, linear.

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

**Comments**

There is one native title claim over the area under application (GIS Database). This claim (WC98/058) has been registered with the National Native Title Tribunal on behalf of the claimant group (GIS Database). However, the mining 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 seven Aboriginal Sites of Significance within a two kilometre radius of the proposed clearing area (Archae-Aus Pty Ltd, 2006). Alcoa of Australia Ltd commissioned Archae-Aus Pty Ltd to undertake an Indigenous archaeological assessment of the proposed clearing area and surrounds. No Aboriginal Sites of Significance were identified during a search of the proposed clearing area (Archae-Aus Pty Ltd, 2006). 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 has obtained a Bed and Banks Permit (Instrument No. PMB170451(2)) under section 17 of the *Rights in Water and Irrigation Act 1914* to obstruct or interfere with surface water drainage within and surrounding the proposed clearing area (Alcoa of Australia Ltd, 2010; Department of Water, 2010).

The proponent has obtained a Works Approval (W4568/2009/1) for the construction of the proposed cooling pond. Revegetation of the outer batters of the cooling pond using native species is a requirement of this approval (Alcoa of Australia Ltd, 2010).

It is the proponent's responsibility to determine whether any other licences or approvals are required for the proposed works.

One submission was received when the clearing permit application was advertised for public comment. The

submission commented on the Statement of Planning Policy 2.1 (Peel Harvey Coastal Plain Catchment), highlighting the importance of ensuring that clearing does not increase nutrient export from the site. The submission requested that vegetation be retained where practicable and any clearing be appropriately offset. The impact of vegetation clearing on nutrient export is addressed under Clearing Principle (i).

With respect to retention of vegetation, it is recommended that should a permit be granted a condition be imposed on the permit to ensure that the Permit Holder has regard to the principles of avoidance, minimisation and reduction in determining the amount of native vegetation to be cleared.

With respect to offsets, it is noted that the proposed clearing area is completely degraded and consists mostly of weeds and plantation vegetation. No critical assets as defined by the Environmental Protection Authority (EPA) (2006) will be impacted by this clearing proposal. On this basis, imposition of offset conditions is considered unnecessary.

**Methodology** Alcoa of Australia Ltd (2010)  
Archae-Aus Pty Ltd (2006).  
Department of Water (2010).  
GIS Databases:  
- Aboriginal Sites of Significance.  
- Native Title Claims.

#### 4. Assessor's comments

##### Comment

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

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

#### 5. References

- Alcoa of Australia Ltd (2010) Application for a Clearing Permit (Area Permit). 8 January 2010.
- 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.
- Mitchell, D., Williams, K. and Desmond, A. (2002) Swan Coastal Plain 2 (SWA2 - Swan Coastal Plain subregion), in Bioregional summary of the 2002 Biodiversity Audit for Western Australia, Department of Conservation and Land Management, 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. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
- Woodman Environmental Consulting Pty Ltd (2004) Vegetation Survey of Pinjarra farmlands area under application for rezoning. Prepared for Alcoa World Alumina Australia. November 2004.

#### 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.