



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 1422/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Chevron Australia Pty Ltd

### 1.3. Property details

Property: Production Licence L1H  
Local Government Area: Shire Of Ashburton  
Colloquial name: Windalia Infill Drilling Programme Barrow Island

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
33.27		Mechanical Removal	Petroleum Production

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 2 June 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 scale of 1:250,000 for the whole of Western Australia. Two Beard Vegetation Associations are located within the application area (GIS Database):

**Beard Vegetation Association 117:** hummock grasslands, grass steppe; soft Spinifex;

**Beard Vegetation Association 667:** hummock grasslands; shrub steppe; scattered shrubs over *Triodia wiseana* and *Triodia* sp. indet. aff. *angusta*.

The clearing permit application area is located on the southern half of the island. The majority (approximately 95%) of the application area is broadly mapped as Beard Vegetation Association 667. The remaining 5% (or approximately 380 hectares) of the application area is broadly mapped as Beard Vegetation Association 117. The application area encompasses approximately one third of the total area mapped as Beard Vegetation Association 117.

The flora of Barrow Island is closely related to that of the Cape Range area (CALM, 2002). Vegetation associations are dominated by *Triodia* grasslands and shrubby *Acacia* and *Melaleuca* spp. (Chevron, 2007). Approximately 400 plant species have been recorded on the island, including some species with restricted distributions (Chevron, 2007).

##### Clearing Description

Chevron Australia Pty Ltd (Chevron) has applied to clear up to a total of 33.27 hectares, within an application area of approximately 9,662 hectares, for the Windalia Infill Drilling Programme on Barrow Island.

The proposed clearing is for drill pads, flowlines and access roads for approximately 48 water injection and production wells within the existing oilfield area, over the next five years.

Each drill pad will require approximately 0.6 hectares of vegetation disturbance during the initial development drilling phase, in order to safely accommodate the necessary people and equipment (Chevron, 2007). When the wells have commenced production, the size of the drill pads can be reduced to approximately 40% of their original size (Chevron, 2007).

Access to the drilling sites will be via the existing oilfield road network, however some additional access roads will be required. Access roads will be a maximum of 6 metres in width, to allow for the safe movement of the drilling rig, vehicles and equipment. The new access roads are expected to total less than 500 metres in length. Vegetation disturbance will be minimised, and previously disturbed areas will be used wherever possible (Chevron, 2007).

The new wells will be tied into the existing oilfield infrastructure by the installation of above-ground water and oil pipelines. The required pipelines are expected to range between 400 metres and 1300 metres in length, and where possible will follow existing pipeline routes (Chevron, 2007). The new pipelines will be laid by hand or by four wheel drive vehicle, and the vegetation along the pipeline routes will be damaged by the movement of people and vehicles. Some localised slashing of vegetation may be required, to minimise fire risk (Chevron, 2007). In addition, where pipelines cross existing roads, areas not exceeding 10 metres x 10 metres will be excavated immediately adjacent to each side of the road crossing, to facilitate the burial of the pipeline under the road.

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

to

Pristine: No obvious signs of disturbance (Keighery, 1994).

**Comment**

The Barrow Island oilfield has been producing oil since 1967. There are currently more than 400 production wells on Barrow Island. The Windalia Infill Drilling Programme proposes to drill approximately 48 additional wells within the existing oilfield, to maximise oil production. All of the new wells will be located within the existing operational oilfield, however the exact locations of all the well sites have not yet been finalised. The preferred well sites will be selected based on ongoing analyses of subsurface geological data (Chevron, 2007). Final site selection will be determined by environmental factors, and exact location of the areas to be cleared will be adjusted where necessary to avoid sites of high conservation significance (Chevron, 2007).

Although the application is to clear up to 33.27 hectares, the proponent has advised that this is a generous estimate of the area required, and the actual area of vegetation disturbance is anticipated to be significantly less (Chevron, 2006).

The drilling programme will utilise water-based drilling mud (Chevron, 2007). Environmental management of the infill drilling programme will be conducted in accordance with the Chevron Vegetation Management Plan for Barrow Island.

Barrow Island is an A Class Nature Reserve, managed for the purposes of conservation by the Department of Environment and Conservation (DEC). Chevron operations on Barrow Island are conducted in consultation with DEC.

Please note: This project is not related to the Gorgon gas development proposed for Barrow Island.

### 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 at variance to this Principle**

Barrow Island is an A Class Nature Reserve that has been recognised internationally for its significantly high biodiversity conservation values (Conservation Commission, 2003). With an area of approximately 23,000 hectares, it is the second largest island off the Western Australian coast. It is an important refuge for marsupials, subterranean fauna and sea turtles (CALM, 2002). Barrow Island is best known for its abundant mammals, including several species that have either declined in numbers or become extinct on the mainland (Conservation Commission, 2003).

Barrow Island has been the site of a large on-shore oil field, operational since the 1960's. The island is criss-crossed by numerous seismic lines from previous petroleum exploration activities, and by pipelines carrying oil from more than 400 oil wells operating on the island, to the storage tanks located on the eastern side of the island (Chevron, 2006; site visit, 2006).

Despite the existing oilfield development on the island, the biodiversity of Barrow Island has survived relatively intact, due in large part to the lack of introduced fauna species and few species of introduced flora (Conservation Commission, 2003). The waters adjacent to Barrow Island are listed on the Register of National Estate, for their natural values. The listed area includes the shoreline and beach slopes of the island (DEH, 2006). Quarantine procedures will be applied to the drilling rig and all other materials and equipment transported to the island for the Windalia Infill Drilling Programme (Chevron, 2007).

Barrow Island is located approximately 70 kilometres off the Pilbara coast and is the largest island of the Barrow Group. However the vegetation of Barrow Island is unlike that of any other island off the Pilbara coast, and is more closely related to that of the Cape Range area (Conservation Commission, 2003). The Biodiversity Audit of Western Australia (CALM 2002), classified Barrow Island as part of the Cape Range subregion of the Carnarvon Bioregion. The flora of the island has been extensively surveyed, and a total of 406 plant taxa have been recorded, including 14 introduced species (Chevron, 2006). The risk of spreading weed species can be mitigated by imposing a condition for the purpose of weed management.

Two species of Priority flora occur on the island: *Corchorus congener* (P3), and *Helichrysum oligochaetum* (P1) (Chevron, 2006). *Corchorus congener* is a small shrub, widespread over the island, and is likely to occur in close proximity to some of the proposed clearing areas. *Helichrysum oligochaetum* is more restricted, and is less likely to be found in close proximity to any of the proposed disturbance areas (Chevron, 2007). Chevron have developed a Vegetation Management Plan and an Environmental Sensitivity Mapping Database for Barrow Island, which identifies vegetation associations that are considered to be of particular conservation significance due to their unique species composition or restricted distribution. The protection of Priority Flora can be managed by imposing a condition on the permit restricting the proponent from clearing any specimens of *Helichrysum oligochaetum*. Populations of *Corchorus congener*, and restricted vegetation associations will be avoided where practicable.

To date, approximately 5.2 % of the vegetation on Barrow Island has been disturbed for the development and

operation of existing oilfield activities (Chevron, 2006). The Conservation Commission (2003), considered that the extent of the existing clearing on the island was significant, and that the cumulative impacts of successive instances of clearing would, in the longer term, substantially diminish the biodiversity conservation values of Barrow Island Nature Reserve and the surrounding marine ecosystems.

The proposed clearing will occur within the existing oilfield areas on the southern half of the island. However the specific locations for the well sites have not yet been finalised. Flora and fauna habitat protection can be managed by imposing a condition on the permit requiring the proponent to conduct flora and fauna surveys of all proposed clearing areas, prior to the commencement of vegetation clearing. Areas considered of special significance for the conservation of biodiversity values (e.g. Boodie warrens, Priority flora, restricted vegetation associations) are to be avoided.

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

**Methodology** CALM (2002)  
Chevron (2006)  
Chevron (2007)  
Conservation Commission (2003)  
DEH (2006)

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

Barrow Island supports a large number of fauna species, including several threatened species, and is widely recognised as an important refuge for terrestrial mammals which are either no longer found or are greatly reduced in numbers on the mainland (CALM, 2002; Conservation Commission, 2003). Five of the 14 terrestrial mammal species found on Barrow Island are listed as Schedule 1 and are protected under the *Wildlife Conservation Act 1950*. These are the Burrowing Bettong (*Bettongia lesueur* ssp.), Barrow Island Golden Bandicoot (*Isodon auratus barrowensis*), Spectacled Hare Wallaby (*Lagorchestes conspicillatus conspicillatus*), Barrow Island Euro (*Macropus robustus isabellinus*) and the Black-flanked Rock Wallaby (*Petrogale lateralis lateralis*). Burrowing Bettongs, Golden Bandicoots, Spectacled Hare Wallabies and Euros are all widely distributed on the island. The Black-flanked Rock-Wallabies are largely restricted to the west coast of the island, where they shelter in rock-piles, cliffs and caves (Chevron, 2007). The boundary of the clearing application area stops approximately 700 metres from the western coastline, at its nearest point. The small, sparsely scattered areas of the proposed clearing are unlikely to have any significant impact on the habitats of any of the above species.

Other fauna known to occur on Barrow Island include more than 100 bird species including the Vulnerable Barrow Island Black and White Fairy-wren (*Malurus leucopterus edouardi*); more than 40 reptile species including one endemic lizard species (*Ctenotus pantherinus acripes*); and a rich subterranean fauna (troglodites and stygofauna) of conservation significance. The beaches of the island are a significant nesting site for marine turtles, in particular the Green Turtle (*Chelonia mydas*) (Vulnerable) and the Flatback Turtle (*Natator depressus*) (Vulnerable) (CALM, 2002).

Only fauna habitats that are site restricted, for example pockets of dense vegetation, burrows, caves and termite mounds, are considered to be at risk from the small, disjunct areas of the proposed clearing. Under the conditions imposed on this permit, the proponent is required to conduct flora and fauna surveys of all proposed clearing areas, prior to final selection of the areas to be cleared. Areas containing significant fauna habitats (e.g. Burrowing Bettong warrens, rock holes and restricted or dense vegetation, will be avoided if practicable).

Subterranean fauna are considered unlikely to be impacted by the proposed vegetation clearing, however they may be impacted by the actual drilling activities proposed. Any potential impacts from the drilling activities of the infill drilling programme fall outside the scope of the clearing permit process and will be addressed by the proponent in their Environmental Management Plan (EMP) for the Windalia Infill Drilling Programme, which has been developed in consultation with DEC, and must be approved by DMP, prior to commencement of the infill drilling programme.

As Barrow Island is known to support significant fauna habitats and the specific sites of the proposed clearing have yet not been identified, the proposed vegetation clearing may be at variance to this principle. However, it is considered that the potential impacts on fauna habitats can be adequately managed through the conditions imposed on the clearing permit and the management measures outlined in the EMP, and that the proposed clearing is unlikely to have any significant impact on the fauna habitats of the island.

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

**Methodology** CALM (2002)  
Chevron (2007)  
Conservation Commission (2003)

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.**

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

According to available databases and flora surveys conducted in the area; there are no known populations of Declared Rare Flora on Barrow Island (Chevron, 2006; GIS Database).

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

**Methodology** Chevron (2006)  
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 likely to be at variance to this Principle**

There are no known Threatened Ecological Communities (TEC's) on Barrow Island (GIS Database).

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

**Methodology** GIS Database  
- Threatened Ecological Communities

**(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 application area falls within the Carnarvon Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Shepherd (2009) reports that approximately 99.6% of the pre-European vegetation still exists within the Carnarvon bioregion (see table below). The vegetation within the application area is recorded as the following Beard Vegetation Associations (Shepherd, 2009):

**Beard Vegetation Association 117:** hummock grasslands, grass steppe; soft Spinifex;

**Beard Vegetation Association 667:** hummock grasslands, shrub-steppe; scattered shrubs over *Triodia wiseana* and *Triodia* sp. indet. aff. *angusta*.

According to Shepherd (2009) approximately 60% of Vegetation Association 117 still exists within the bioregion, whereas Vegetation Association 667 has not been specified (see table below). Both these vegetation associations are quite well represented in reserves, particularly Vegetation Association 667 with approximately 99.7% of the total association being in reserves.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Carnarvon	8,382,609	8,349,861	~99.6	Least Concern	~3.6
Beard vegetation associations - State					
117	919,161	871,011	~94.8	Least Concern	~12.9
667	22,860			Least Concern	~97.6
Beard vegetation associations - Bioregion					
117	12,394	7,366	~59.44	Least Concern	~27.14
667	21,832			Least Concern	~99.7

\* Shepherd (2009)

\*\* Department of Natural Resources and Environment (2002)

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

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

**(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 permanent watercourses or waterbodies on Barrow Island (Chevron, 2006; GIS Database).

There are numerous minor seasonal watercourses located within the application area. These watercourses are dry for most of the year, only flowing briefly following significant rainfall events. The proposed clearing is unlikely to have any significant impact on any watercourse or wetland.

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

**Methodology** Chevron (2006)  
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 small disjunct areas of vegetation clearing are unlikely to cause appreciable land degradation. The risk of soil erosion can be mitigated by imposing a condition for the purpose of erosion management.

Drilling operations will use water based fluids, and all drill cuttings will be discharged into a pit (Chevron, 2007).

The proposed erosion control measures will be described by the proponent in their Environmental Management Plan (EMP) for the Windalia infill drilling programme, which must be approved by DMP, prior to commencement of the infill drilling.

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

**Methodology** Chevron (2007)

**(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 at variance to this Principle**

Barrow Island is an A Class Nature Reserve managed for the purposes of conservation by the Department of Environment and Conservation (GIS Database). The reserve is recognised as having significantly high biodiversity conservation values (Conservation Commission, 2003).

The island and surrounding waters are also listed for their natural values on the Register of the National Estate (DEH, 2006; GIS Database). The Barrow Island Marine Park adjoins the western coastline of Barrow Island (GIS Database). The marine park will not be impacted by the proposed clearing.

The Barrow Island Nature Reserve covers approximately 23,500 hectares (Chevron, 2006). Although the proposal is at variance to this principle, the area of proposed clearing (33.27 hectares) represents a small percentage of the total area of the Nature Reserve, and it is considered that the proposed clearing can be adequately managed to minimise impacts on the environmental values of any conservation areas.

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

**Methodology** Chevron (2006)  
Conservation Commission (2003)  
DEH (2006)  
GIS Database  
- DEC Tenure  
- Register of National Estate

**(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**

Barrow Island has an arid subtropical climate, with an average annual rainfall of 320 millimetres (Chevron, 2007). Rainfall is highly variable and frequently associated with cyclones, which occur between November and March (Chevron, 2007).

There are no permanent watercourses or waterbodies within the application area (GIS Database), and the proposed clearing is unlikely to significantly alter surface water flows.

The groundwater level over most of the island is close to sea level (Chevron, 2007). Hence the groundwater depth ranges from nil at the coast up to approximately 50 metres on higher landforms in the centre of the island. An extensive brackish to saline shallow aquifer is known to exist in the limestone karst system of the island (above the watertable) (Chevron, 2007). The proposed clearing of small areas spread over a very large application area, is unlikely to have any impact on groundwater levels or quality.

The proposed clearing is unlikely to cause deterioration in the quality of any surface or underground water.

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

**Methodology** Chevron (2007)  
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**  
Barrow Island has an arid, sub-tropical climate, and receives variable summer and winter rainfall (CALM, 2002). The region is prone to seasonal cyclones and natural flooding may occur occasionally during the wet season (November to March). There are numerous minor, seasonal creeklines located within the application area (Chevron, 2007; GIS Database), however these only flow temporarily following significant rainfall events.

The small areas of proposed clearing are not likely to cause or exacerbate the incidence or intensity of flooding.

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

**Methodology** CALM (2002)  
Chevron (2007)  
GIS Database  
- Hydrography, Linear

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

**Comments**  
There are no known native title claims registered over Barrow Island (GIS Database).  
According to available databases there are three registered Aboriginal Sites of Significance recorded as occurring wholly or partly within the clearing permit 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. All known Aboriginal heritage sites on Barrow Island are recorded on the Chevron GIS database. These sites and a 100 metre protective buffer surrounding the sites are considered as "Priority 1" areas for environmental sensitivity, and are protected from disturbance (Chevron, 2007).

Chevron Australia Pty Ltd has a current operating licence (4467) granted in accordance with the *Environmental Protection Act 1986*. The proposed clearing is not at variance to this licence (DEC, 2006).

A water licence will not be required for this project, as *The Rights in Water and Irrigation Act 1914* has no jurisdiction on offshore islands (DoW, 2006).

This project was referred to the EPA, by a third party. The EPA determined that the proposed clearing could be adequately managed by the Clearing Regulations under Part V of the *Environmental Protection Act 1986* (EPA, 2007). The EPA advertised the decision not to formally assess the clearing permit application, and the Minister for the Environment received an appeal against the EPA's decision. The Minister dismissed the appeal, and determined that the proposal did not require formal assessment under Part IV of the *EP Act*, as it could be the subject of appropriate examination through the clearing permit process administered by DMP (Minister for the Environment, 2007).

**Methodology** Chevron (2007)  
DEC (2006)  
DoW (2006)  
EPA (2007)  
Minister for the Environment (2007)  
GIS Database  
- Aboriginal Sites of Significance  
- Native Title Claims

## 4. References

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## 5. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>CALM</b>	Department of Conservation and Land Management (now DEC), Western Australia
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia
<b>DEH</b>	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
<b>DEP</b>	Department of Environment Protection (now DEC), 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 (now DEC), Western Australia
<b>DoIR</b>	Department of Industry and Resources (now DMP), Western Australia
<b>DOLA</b>	Department of Land Administration, Western Australia
<b>DoW</b>	Department of Water
<b>EP Act</b>	Environmental 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>ha</b>	Hectare (10,000 square metres)
<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 Act</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>TEC</b>	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.