



## 1. Application details

### 1.1. Permit application details

Permit application No.: 2974/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: **Origin Energy Resources Limited**

### 1.3. Property details

Property: Petroleum Production Licence L 2 R1  
Petroleum Production Licence L 14  
Local Government Area: Shire Of Irwin  
Colloquial name: Jingemina 9 Water Flowline Project

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.9		Mechanical Removal	Petroleum 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 application area is mapped at a 1:250,000 scale as Beard Vegetation Associations:</p> <p>17: Shrublands; <i>Acacia rostellifera</i> thicket; and</p> <p>432: Shrublands; <i>Acacia rostellifera</i> &amp; <i>Melaleuca cardiophylla</i> thicket (GIS Database).</p> <p>Woodman Environmental Consulting (2008) conducted a desktop risk assessment of the proposed Jingemina 9 Water Flowline to identify potential impacts to flora and vegetation based on previous surveys undertaken and data provided by the Department of Environment and Conservation. Woodman Environmental Consulting (2008) identified three vegetation communities that occur within the application area:</p> <p>T1: Dense thicket dominated by <i>Acacia rostellifera</i> on grey sand with occasional limestone outcropping.</p> <p>T3: Dense thicket dominated by <i>Melaleuca cardiophylla</i> over herb grasses.</p> <p>W1: Low Woodland of mixed mallees.</p>	<p>Origin Energy Resources Limited (Origin Energy) have applied to clear up to 2.9 hectares of native vegetation within Petroleum Production Licences L 2 R1 and L 14. Origin Energy (2008) currently operates the Jingemina Production Facility located approximately nine kilometres south-east of Dongara. Origin Energy (2008) proposes to clear native vegetation to install a water flowline linking the Jingemina Production Facility and the Jingemina 9 well site.</p>	<p>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).</p> <p>To</p> <p>Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).</p>	<p>The vegetation condition has been derived from the Woodman Environmental Consulting (2008) flora report, aerial photography viewed by the assessing officer (GIS Database) and information provided by Origin Energy (2008).</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 application area is situated nine kilometres south-east of the town site of Dongara, within the Lesueur Sandplains subregion of the Geraldton Sandplains Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database).

Desmond and Chant (2001) summarised the biodiversity values of the Lesueuer Sandplains subregion as; shrub-heaths rich in endemics which occur on a mosaic of lateritic mesas, sandplains, coastal sands and limestone. The area exhibits extremely high floristic endemism, with over 250 species of sandplain flora endemic to the subregion (Desmond and Chant, 2001).

Whilst the vegetation of the bioregion represents a high level of biodiversity, the vegetation of the application area has been heavily disturbed. Much of the vegetation of the application area is growing along side and

within firebreaks and rehabilitated seismic lines (Woodman Environmental Consulting, 2008). Due to the high levels of disturbance to the vegetation communities within the application area, it is unlikely the vegetation represents an area of exceptional biodiversity.

A total of 68 introduced weed taxa have been recorded in and around the application area (Woodman Environmental Consulting, 2008). The presence of introduced species diminishes the biodiversity value of the proposed clearing area (CALM, 1999). Care needs to be taken to ensure that vehicles and machinery brought into the application area do not introduce weeds to non-infested areas. Should a clearing permit be granted, it is recommended that appropriate conditions be imposed to minimise the risk of clearing operations spreading or introducing weeds to non-infested areas.

The Lesueur Sandplain sub-bioregion is not noted for its fauna diversity (Desmond and Chant, 2001). Although no systematic fauna survey was conducted over the application area, it is expected that due to the high levels of disturbance to the vegetation in the application area, fauna diversity would not be exceptionally high.

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

**Methodology** CALM (1999)  
Desmond and Chant (2001)  
Woodman Environmental Consulting (2008)  
GIS Database:  
Interim Biogeographic Regionalisation for Australia  
Interim Biogeographic Regionalisation for Australia subregion

**(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**

A search of the Department of Environment, Heritage, Water and the Arts (2008) Protected Matters database revealed one threatened species and four migratory species which may occur within the application area. These were:

- Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) (Endangered – *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act 1999)*);
- Cattle Egret (*Ardea ibis*) (Migratory – *EPBC Act 1999*);
- Fork-tailed Swift (*Apus pacificus*) (Migratory – *EPBC Act 1999*);
- Great Egret (*Ardea alba*) (Migratory – *EPBC Act 1999*);
- Rainbow Bee-eater (*Merops ornatus*) (Migratory – *EPBC Act 1999*).

Much of the vegetation of the application area is growing along side and within firebreaks and rehabilitated seismic lines (Woodman Environmental Consulting, 2008). Due to the high levels of disturbance to the vegetation communities within the application area, it is unlikely the vegetation represents a significant habitat for fauna indigenous to Western Australia. Fauna habitats in much better condition occur within the Beekeepers Nature Reserve located approximately 250 metres to the south of the application area.

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

**Methodology** Department of Environment, Heritage, Water and the Arts (2008)  
Woodman Environmental Consulting (2008)

**(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**

The application area lies within an area previously surveyed by Hart, Simpson and Associates Pty Ltd in 2003 for drilling of various wells and by Woodman Environmental Consulting during comprehensive flora and vegetation studies of the Denison 3D Seismic Survey Program in 2004 (Origin Energy, 2008).

Origin Energy Commissioned Woodman Environmental Consulting to undertake a desktop risk assessment of the proposed Jingemina 9 Flowline to identify and manage potential impacts to flora and vegetation based on previous surveys undertaken and data provided by the Department of Environment and Conservation (Origin Energy, 2008).

No Declared Rare Flora has been recorded within, or in close proximity to the application area (Woodman Environmental Consulting, 2008).

Woodman Environmental Consulting (2008) identified the following Department of Environment and Conservation listed Priority Flora species which have the potential to occur in the application area.

- *Anthocercis intricata* - Priority 3
- *Baeckea sp.* Walkaway - Priority 3

- *Banksia elegans* - Priority 4
- *Eucalyptus zopherophloia* - Priority 4
- *Haloragis foliosa* - Priority 3
- *Schoenus sp.* Eneabba - Priority 2
- *Stawellia dimorphantha* - Priority 4

Woodman Environmental Consulting (2008) report that no Declared Rare Flora or Priority Flora have been recorded within plant communities T1, T3 and W1. These plant communities make up 100 percent of the application area.

Two of the Priority Flora species listed above have been noted as disturbance specialists; *Anthocercis intricata* and *Haloragis foliosa* (Woodman Environmental Consulting, 2008). As much of the application area has been identified as being heavily disturbed from historic petroleum exploration activities and the installation of fire breaks, these two Priority Flora species may occur in the application area. However, if there is an impact on plants from either of these species, it is anticipated that these plant species would be able to recolonise disturbed areas post-rehabilitation.

Woodman Environmental Consulting (2008) have reported that impacts to Priority Flora species potentially occurring within the application area are considered to be minor at the local conservation significance level due to the small percentage of known local habitat to be impacted during the construction of the Jingemina 9 Flowline. Woodman Environmental Consulting (2008) have further stated that the proposal will not result in a significant reduction in local populations of these species and will not result in any reduction in geographical range or viability for any of the species listed.

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

**Methodology** Origin Energy (2008)  
Woodman Environmental Consulting (2008)

**(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**

According to available databases there are no Threatened Ecological Communities (TEC's) within the application area (GIS Database). The nearest known TEC's are located approximately 40 kilometres to the north-west (GIS Database).

The vegetation units described by Woodman Environmental Consulting Pty Ltd (2008) as occurring within the application area were not considered to be TEC's or an ecological community at risk.

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

**Methodology** Woodman Environmental Consulting (2008)  
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 is within the Interim Biogeographic Regionalisation for Australia (IBRA) Geraldton Sandplains bioregion (GIS Database). According to Shepherd et al. (2001) there is approximately 42.2% of the pre-European vegetation remaining in the Geraldton Sandplains bioregion which places it's conservation status as 'depleted' according to the Department of Natural Resources and Environment (2002). The vegetation of the application area is classified as Beard Vegetation Associations 17 - Shrublands; *Acacia rostellifera* thicket; and 432 - Shrublands; *Acacia rostellifera* & *Melaleuca cardiophylla* thicket (GIS Database).

There is approximately 82.8 % of Beard Vegetation Association 17 and 88.2 % of Beard Vegetation Association 432 remaining respectively within the Geraldton Sandplains bioregion. Both Beard Vegetation Associations 17 and 432 are well represented within Class I-IV IUCN conservation reserves within both the State and the bioregion.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% of Pre-European area in IUCN Class I-IV Reserves (and current %)
IBRA Bioregion – Geraldton Sandplains	3,136,277	1,324,440	~42.2	Depleted	~15.3 (~35.5)

IBRA Subregion – Lesueur Sandplains	1,171,805	478,987	~40.9	Depleted	~17.7 (~41.4)
Local Government – Irwin	238,186	115,612	~48.6	Depleted	N/A
Beard veg assoc. – State					
17	76,640	67,220	~87.7	Least Concern	~7.5 (~8.5)
432	5,733	4,968	~86.7	Least Concern	~52.4 (~60.3)
Beard veg assoc. – Bioregion					
17	54,071	44,772	~82.8	Least Concern	~10.6 (~12.7)
432	5,625	4,967	~88.3	Least Concern	~53.4 (~60.3)
Beard veg assoc. – Subregion					
17	4,473	3,040	~68.0	Least Concern	~11.2 (~15.5)
432	5,625	4,967	~88.3	Least Concern	~53.4 (~60.3)

\* Shepherd et al. (2001) updated 2005.

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

Whilst nearly 60 percent of the sub-region has been cleared, the proposed clearing of 2.9 hectares is unlikely to significantly reduce the extent of Beard Vegetation Associations 17 and 432 below current levels. Therefore, the vegetation within the application area is not likely to be a significant remnant in an area that has been highly cleared. Furthermore, the vegetation within the application area is degraded and comprises a mixture of cleared land, introduced species and native vegetation (Woodman Environmental Consulting, 2008) and may no longer be a representation of Beard Vegetation Associations 17 or 432.

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 et al. (2001)  
Woodman Environmental Consulting (2008)  
GIS Database:  
- Interim Biogeographic Regionalisation of Australia  
- Interim Biogeographic Regionalisation of Australia (subregion)  
- 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 at variance to this Principle**

There are no watercourses or wetlands within the application area (GIS database).

None of the vegetation types as described by Woodman Environmental Consulting (2008) within the application area are associated with riparian areas.

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

**Methodology** Woodman Environmental Consulting (2008)  
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 Lesueur Sandplains sub-bioregion is characterised by low lying, gently undulating land covered by quaternary coastal dunes and marine deposits (Woodman Environmental Consulting, 2008). The landform relief along the Jingemina 9 Flowline route ranges from approximately 10 metres to 36 metres (Australian Height Datum). When cleared of native vegetation the quaternary dunes are susceptible to wind erosion (Origin Energy, 2008).

Although the application area is susceptible to wind erosion, the small size of the application area (2.9 hectares) coupled with the thin linear nature (10 metres wide by 2868 metres in length) (Woodman Environmental Consulting, 2008) of the proposed clearing, will greatly reduce any potential erosion hazards. Furthermore, Origin Energy (2008) have stated that the mobilisation, site preparation, pipeline installation,

commissioning and rehabilitation works will take approximately two weeks to complete, therefore the area will not be left exposed for any great length of time. To ensure that remedial action takes place post-clearing, it is recommended that should a clearing permit be granted, conditions be imposed for the purposes of rehabilitation and staged clearing.

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

**Methodology** Origin Energy (2008)  
Woodman Environmental Consulting (2008)

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

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

The application area is situated approximately 250 metres north of the C-Class Beekeepers Nature Reserve (GIS Database). The Beekeepers Nature Reserve has been set aside for the purposes of conservation and beekeeping (Origin Energy, 2008). Although the proposed clearing is in close proximity to the nature reserve it is unlikely to impact on the environmental values of this reserve due to the following reasons:

- the proposed clearing is relatively small (2.9 hectares) and linear in nature (10 metres wide by 2868 metres in length). Therefore, clearing will be conducted in a narrow corridor reducing the chances of erosion, reducing impacts to fauna corridors and aiding the ability of the surrounding flora to regrow over the cleared areas; and
- most of the application area occurs in old seismic lines cleared during petroleum exploration with limited regrowth, or in firebreaks maintained by the Shire (Woodman Environmental Consulting, 2008). Only a small portion of the proposed clearing will be conducted in uncleared native vegetation (Woodman Environmental Consulting, 2008). Therefore, the proposed clearing is not expected to have an impact on the environmental values of the Beekeeper Nature Reserve that is significantly different to the current landscape.

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

**Methodology** Origin Energy (2008)  
Woodman Environmental Consulting (2008)  
GIS Database:  
- CALM Managed Lands and Waters

**(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 proposed clearing area does not fall within a Public Drinking Water Source Area (GIS database) and will therefore not affect the quality of drinking water in any such areas.

There are no watercourses or water bodies within, or in close proximity to the application area (GIS Database). Therefore, it is unlikely the clearing of native vegetation associated with this proposal will cause a deterioration in surface water quality.

Due to the small size of the proposed clearing (2.9 hectares), it is unlikely the clearing associated with this proposal will cause a deterioration in ground water quality.

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

**Methodology** GIS databases:  
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**

Given the small size (2.9 hectares) and the linear nature of the proposed clearing it is highly unlikely to cause an incremental rise in the frequency or duration of flooding. In addition, the application area has a slight relief with no bodies of water, or watercourses in close proximity (GIS Database).

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

**Methodology** GIS databases:  
Hydrography, linear

**Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.**

**Comments**

The clearing permit application was advertised on 2 March 2009 by the Department of Mines and Petroleum, inviting submissions from the public. No submissions were received.

There is one native title claim over the application area; WC04/002. This claim has been registered with the 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 no known Aboriginal Sites of Significance located 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.

The Jingemia 9 water well is currently licensed by the Department of Water (DoW) to extract groundwater from the Yarragadee Aquifer under the *Rights in Water and Irrigation Act 1914* (Origin Energy, 2008).

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** Origin Energy (2008)  
GIS Database:  
-Aboriginal Sites of Significance  
-Native Title Claims

**4. Assessor's comments**

**Comment**

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

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

**5. References**

- CALM (1999) Environmental Weed Strategy for Western Australia, Department of Conservation and Land Management, Perth, western Australia.
- Department of Environment, Heritage, Water and the Arts (2008) Protected Matters Database search, conducted on 7 November 2008, for Origin Energy Resources Limited.
- 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.
- Desmond, A and Chant, A. (2001) Geraldton Sandplains 3 (GS3 - Lesueur Sandplain Subregion) in A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002. Report Published by CALM. Perth Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Origin Energy (2008) Construction Environmental Management Plan Bridging Document Jingemia 9 Water Flowline, supporting documentation for a clearing permit, provided by Origin Energy Resources Limited, Brisbane, Queensland.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Woodman Environmental Consulting (2008) Proposed Jingemia 9 Water Flowline – Risk Assessment significant Flora and Plant Communities. Unpublished report for Origin Energy Resources Limited.

## 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>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*} :-

<b>P1</b>	<b>Priority One - Poorly Known taxa:</b> 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.
<b>P2</b>	<b>Priority Two - Poorly Known taxa:</b> 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.
<b>P3</b>	<b>Priority Three - Poorly Known taxa:</b> 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.
<b>P4</b>	<b>Priority Four – Rare taxa:</b> 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.
<b>R</b>	<b>Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable):</b> 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.
<b>X</b>	<b>Declared Rare Flora - Presumed Extinct taxa:</b> 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] :-

<b>Schedule 1</b>	<b>Schedule 1 – Fauna that is rare or likely to become extinct:</b> being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
<b>Schedule 2</b>	<b>Schedule 2 – Fauna that is presumed to be extinct:</b> being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
<b>Schedule 3</b>	<b>Schedule 3 – Birds protected under an international agreement:</b> 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.
<b>Schedule 4</b>	<b>Schedule 4 – Other specially protected fauna:</b> 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.