



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 8041/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: ACH Minerals Pty Ltd

### 1.3. Property details

Property: Exploration Licence 74/578  
Local Government Area: Shire of Ravensthorpe  
Colloquial name: Bandalup Pools Project

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2		Mechanical Removal	Mineral Exploration

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 4 October 2018

## 2. Site Information

### 2.1. Existing environment and information

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

**Vegetation Description** The clearing permit application area is broadly mapped as the following Beard vegetation associations:  
47: Shrublands, tallerack mallee-heath; and  
516: Shrublands, mallee scrub, black marlock (GIS Database).  
The majority of the application area is mapped as Beard vegetation association 516.

A flora and vegetation survey was conducted over the application area and surrounding areas by Hickman (2011). The following thirteen vegetation associations were identified within the application area:

*Eucalyptus falcata*/ *Eucalyptus pleurocarpa*: Open Shrub Mallee, Scrub, Heath, Low Heath C, Open Dwarf D;  
*Eucalyptus falcata*: Shrub Mallee Thicket, Low Scrub, Low Heath C;  
*Eucalyptus gardneri* subsp. *ravensthorpensis*: Low Forest, Open low Scrub, Open Dwarf Scrub C and D;  
*Eucalyptus clivicola*: Low forest, Open Scrub, Open low Scrub, Open Dwarf Scrub D, Very Open Sedges;  
*Eucalyptus flocktoniae*/*Eucalyptus* species: Shrub Mallee, Open Scrub, Open Low Scrub, Dwarf Scrub C and D, Open Sedges;  
*Eucalyptus flocktoniae*/*Melaleuca* sp. Gorse (ASG 7224): Very Open Shrub Mallee, Heath, Open Dwarf Scrub C and D;  
*Acacia ophiolithica*: Open Scrub, Heath, Open Low Scrub;  
*Eucalyptus* sp. Ravensthorpe (ASG 616)/*Melaleuca cliffortioieds*: Very Open Shrub Mallee, Heath, Open Dwarf Scrub D, Very Open Sedges;  
*Eucalyptus extensa*: Low forest, Low Scrub, Open Dwarf Scrub;  
*Eucalyptus platypus*: Dense Low Forest;  
*Eucalyptus leptocalyx*/*Melaleuca rigidifolia*: Open Shrub Mallee, Open Scrub, Low Scrub;  
*Eucalyptus pleurocarpa*/*Banksia media*: Open Shrub Mallee, Open Scrub, Heath, Low Heath, Open Dwarf Scrub D;  
*Melaleuca stramentosa*: Open Shrub Mallee, Dense Heath, Dwarf Scrub C and D;

**Clearing Description** Bandalup Pools Project.  
ACH Minerals Pty Ltd proposes to clear up to 2 hectares of native vegetation within a boundary of approximately 5.89 hectares, for the purpose of mineral exploration. The project is located approximately 25 kilometres southeast of Ravensthorpe, in the Shire of Ravensthorpe.

**Vegetation Condition** Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).

**Comment** The vegetation condition was derived from a flora and vegetation survey conducted by Hickman (2011).

The proposed clearing is for exploration drilling and access tracks. The clearing permit application area consists of five parallel drill line corridors, running in an approximately east-west direction off an existing track. Four of the drill lines are located approximately 180 metres apart, while the fifth drill line is located approximately 500 metres further north. The five application areas range in length from approximately 300 metres long to approximately 900 metres long and total approximately 5.8 hectares in area. The drill lines will require clearing for tracks approximately 4 metres wide, within the 15 metre wide application areas (ACH, 2018).

### 3. Assessment of application against Clearing Principles

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

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

The majority of the application area occurs within the Fitzgerald sub-region of the Esperance Plains Bioregion of the Interim Biogeographic Regionalisation of Australia (IBRA) (GIS Database). A small part of the most northerly application area is mapped as the Recherche sub-region of the Esperance Plains Bioregion (GIS Database).

The Esperance Plains bioregion is characterised by myrtaceous and proteaceous scrub and mallee heaths on sandplain overlying Eocene sediments. Herbfields and heaths (rich in endemics) occur on abrupt granite tors and quartzite ranges that rise from the plain. Eucalypt woodlands occur in gullies and alluvial foot-slopes (CALM, 2002). The vegetation types of the Fitzgerald sub-region are diverse, often cryptic and significantly endemically localised in nature. Vegetation types of the Recherche sub-region are also diverse, comprising heath, coastal dune scrub, mallee, mallee-heath and granite heath (CALM, 2002).

A flora and vegetation survey of the application area and surrounding areas was conducted by Hickman (2011) between 21 February and 24 February 2011. A total of 27 vegetation associations were identified within the broader survey area (Hickman, 2011), reflecting the vegetation diversity of the region. Thirteen of these vegetation associations were recorded within the current clearing permit application area (Hickman, 2011).

No Threatened flora are known to occur within the application area and none were recorded during the flora survey (Hickman, 2011; GIS Database). Two Priority flora species were recorded within the broader survey area, *Acacia errabunda* (Priority 3) and *Eucalyptus stoatei* (Priority 4). The five records of *Acacia errabunda* were all located outside of the current clearing permit application area, further to the north (Hickman, 2011). One of the four records of *Eucalyptus stoatei* occurred within the current application area, represented by only a single tree. The five separate application areas are approximately 15 metres wide, while the access tracks will be approximately four metres wide, allowing for flexibility in the alignment of the drill-lines (ACH, 2018). The proponent has advised that clearing of large trees, thickets and mulga groves will be avoided (ACH, 2018).

The application areas fall wholly within a mapped occurrence of the ecological community known as the "Proteaceae dominated kwongan shrublands of the southeast coastal floristic province of Western Australia", which is listed by the WA Department of Biodiversity Conservation and Attractions (DBCA) as a Priority Ecological Community (PEC), (Priority 3), and is federally listed as a Threatened Ecological Community (TEC) under the *Environment Protection and Biodiversity Conservation Act 1999*.

Hickman (2011) recorded the vegetation within the survey area as being in Excellent condition and noted that no weed species and no signs of dieback were recorded during the survey. Clearing activities may spread or introduce weeds, which have the potential to out-compete native flora and reduce the biodiversity of an area. DBCA (2018) advised that the vegetation in the area is considered to be in good to excellent condition, and that the application area falls within a dieback vulnerable zone. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed and dieback management condition.

The application area falls within a proposed nature reserve, and the area is considered to have high conservation value due to its high biodiversity and potential for conservation significant flora and fauna (DBCA, 2018).

However, the proposed clearing of up to two hectares of native vegetation for five exploration drill lines, is unlikely to have any significant impact on the biological diversity of the region.

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

**Methodology** CALM (2002)  
DBCA (2018)  
Hickman (2011)

GIS Database:  
- IBRA Australia

- Pre-European Vegetation
- Threatened and Priority Ecological Communities boundaries
- Threatened and Priority Ecological Communities buffered
- Threatened and Priority Flora
- Threatened Fauna

**(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 fauna survey has not been conducted over the application area. A previously granted clearing permit (CPS 4361/1, now expired) authorised clearing for exploration activities over the same area and all of the current application areas occur over old drill lines (GIS Database). The proposed clearing occurs within a large remnant of native vegetation, and the clearing of up to two hectares in narrow linear corridors which have been previously cleared, is likely to have a minimal impact on the availability of fauna habitats. However, disturbance of significant fauna habitat features such as large trees or hollow logs should be avoided.

Several fauna species of conservation significance have the potential to occur within the application area, including Malleefowl, *Leipoa ocellata* (Vulnerable); Chuditch, *Dasyurus geoffroyi* (Vulnerable); *Parantechinus apicalis*, Dibbler (Endangered); Heath Mouse, *Pseudomys shortridgei* (Vulnerable); and Western Whipbird, *Psophodes nigrogularis* (Endangered) (DBCA, 2018; GIS Database). Conservation significant fauna may forage through the area, however none are likely to be specifically dependant on the vegetation proposed to be cleared.

The vegetation units and associated fauna habitats within the application area are well represented in surrounding areas, including within nearby conservation reserves (Hickman, 2011; GIS Database). The temporary nature and small scale of the proposed clearing is unlikely to have any significant impact on available fauna habitats in either a local or regional context.

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

**Methodology** DBCA (2018)  
Hickman (2011)

GIS Database:  
- Imagery  
- Pre-European Vegetation  
- Threatened Fauna

**(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**

There are no known records of Threatened flora within the application area (GIS Database), and none were recorded during the flora survey conducted over the application area and surrounding areas (Hickman, 2011).

The vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened (rare) flora.

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

**Methodology** Hickman (2011)

GIS Database:  
- Threatened and Priority Flora

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

The application area falls wholly within a mapped occurrence of the federally listed Threatened Ecological Community, "Proteaceae dominated kwongkan shrublands of the southeast coastal floristic province of Western Australia", which was listed in 2014 as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (DoE, 2018).

The kwongkan shrublands TEC is known from several shires across the Esperance Sandplains and Mallee bioregions, and is known to occur in several conservation reserves, including the Stirling Range National Park and the Fitzgerald River National Park (DoE, 2014). However, the historical geographic distribution of the TEC has become fragmented, making the future integrity of the TEC vulnerable to threatening processes such as

large-scale clearing and the potential introduction or spread of weeds and dieback (DoE, 2014).

The TEC is dominated by flowering shrub species from the Proteaceae family (e.g. Banksias, Grevilleas, Hakeas) (DoE, 2014). Hickman (2011) conducted a flora and vegetation survey over the current clearing permit application area during 2011, which was prior to the identification of the kwongan shrublands ecological community as either a PEC or a TEC. Hickman (2011) recorded several vegetation associations within the application area, some of which included Proteaceous species, although some were dominated by Eucalypt species. It is unclear how much of the vegetation proposed to be cleared could be considered to represent the TEC. However, the application area is located within a large remnant of native vegetation and the proposed clearing of up to two hectares, is unlikely to have a significant impact on the quality or extent of the kwongan shrublands TEC.

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

**Methodology** DoE (2014)  
Hickman (2011)

GIS Database:

- Threatened and Priority Ecological Communities boundaries
- Threatened and Priority Ecological Communities buffered

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

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

The application area is located within the Esperance Plains Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 51% of the pre-European vegetation still exists in this IBRA Bioregion (Government of Western Australia, 2018).

The majority of the application area is broadly mapped as Beard vegetation association 516: Shrublands, mallee scrub, black marlock (GIS Database). A small section in the southern part of the application area is broadly mapped as Beard vegetation association: 47: Shrublands, tallerack mallee-heath (GIS Database).

Approximately 35% and 54%, respectively, of the pre-European extent of vegetation associations 47 and 516 remain uncleared in the State (Government of Western Australia, 2018).

Only 15% of the pre-European extent of vegetation association 47 remains uncleared within the Recherche subregion, which is classed as vulnerable (Government of Western Australia, 2018). However, only a very small portion of the application area is broadly mapped as the Recherche subregion (GIS Database), and the proposed clearing will not alter the remaining percentage.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DBCA Managed Lands (and post clearing %)
IBRA Bioregion - Esperance Plains	2,899,940	1,494,448	51	Least Concern	28.8 (55.0)
IBRA Subregion - Fitzgerald	1,570,678	865,777	55	Least Concern	28.2 (50.7)
IBRA Subregion - Recherche	1,329,262	628,671	47	Depleted	29.6 (61.0)
Local Government - Ravensthorpe	982,194	605,474	61	Least Concern	20.0 (31.9)
<b>Beard vegetation associations - State</b>					
47	1,033,054	370,433	35	Depleted	18.0 (50.0)
516	607,434	332,848	54	Least Concern	24.2 (44.1)
<b>Beard vegetation associations - Esperance Plains Bioregion</b>					
47	959,935	336,490	35	Depleted	18.7 (53.0)
516	318,746	219,798	68	Least Concern	28.7 (41.6)

Beard vegetation associations - Fitzgerald subregion					
47	546,400	274,214	50	Depleted	31.5 (62.5)
516	219,038	183,114	83	Least Concern	38.5 (45.9)
Beard vegetation associations - Recherche subregion					
47	413,535	62,275	15	Vulnerable	1.8 (11.5)
516	99,708	36,684	36	Depleted	7.4 (20.1)

\* Government of Western Australia (2018)

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

The application area is located within a large remnant of native vegetation, and the proposed clearing of up to 2 hectares, will have minimal impact on the size of the remnant.

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

**Methodology** Government of Western Australia (2018)

GIS Database:

- IBRA Australia
- Imagery
- 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 may be at variance to this Principle**

There are no permanent watercourses or wetlands within the areas proposed to be cleared (GIS Database).

Several minor ephemeral drainage lines intersect the application areas, however none of the vegetation associations recorded within the application areas have been described as riparian vegetation (Hickman, 2011).

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

**Methodology** Hickman (2011)

GIS Database:

- Hydrography, Lakes
- 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 is for mineral exploration and access tracks. The clearing will be carried out with a raised blade, and large trees will be avoided (ACH, 2018).

The low impact nature of the proposed clearing of up to 2 hectares of native vegetation in narrow corridors, is unlikely to cause appreciable land degradation.

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

**Methodology** ACH (2018)

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

The application area is located within an area known as the Ravensthorpe Range Area, which is listed on the Register of National Estate for its unique natural values (GIS Database). The Ravensthorpe Range Area covers an area of approximately 27,000 hectares (GIS Database). The area of the proposed clearing (2 hectares) is unlikely to have any significant impact on the natural values of this area.

Some parts of the Ravensthorpe Range Area have been proposed as future Nature Reserves (DBCA, 2018). The entire application area is located within proposed Nature Reserve 56, which is to be managed by DBCA for the purposes of conservation (DBCA, 2018).

The nearest current DBCA (formerly DPaW) managed land is a Conservation Park (Reserve 49742) which is located approximately 130 metres to the east of the application area, at its nearest point (GIS Database).

The proponent has been in consultation with DBCA to develop a Conservation Management Plan for the project area (DBCA, 2018). The low impact and temporary nature of the proposed clearing is unlikely to have any significant impact on the environmental values of any conservation area.

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

**Methodology** DBCA (2018)

GIS Database:  
- DPaW Tenure  
- Environmentally Sensitive Areas  
- 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**

There are no Public Drinking Water Source Areas within or in close proximity to the application areas (GIS Database).

There are no permanent watercourses or wetlands within the application areas (GIS Database). The proposed clearing is unlikely to result in significant changes to surface water flows.

The small area of the proposed clearing is unlikely to cause deterioration in the quality of underground water.

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

**Methodology** 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**

The climate of the region is temperate Mediterranean, with an average rainfall of approximately 430.7 millimetres per year, recorded from the nearest weather station at Ravensthorpe, approximately 25 kilometres northwest of the application area (BoM, 2018; CALM, 2002).

There are no permanent water courses or waterbodies within or in close proximity to the application area (GIS Database). Several minor ephemeral drainage lines intersect the application areas (GIS Database), and some localised flooding may occur during heavy rain events. However, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.

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

**Methodology** BoM (2018)  
CALM (2002)  
  
GIS Database:  
- Hydrography, lakes  
- Hydrography, linear

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

### Comments

The clearing permit application was advertised on 30 July 2018 by the Department of Mines, Industry Regulation and Safety (DMIRS) inviting submissions from the public. One submission was received in relation to this application, raising concerns over Aboriginal Heritage issues.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2018). 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 permit area is within the South West Native Title Settlement area (DPLH, 2018). This settlement resolves Native Title rights and interests over an area of approximately 200,000 square kilometres within the south west of Western Australia. The mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

It is noted that the proposed clearing may impact on a protected matter under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The proponent may be required to refer the project to the (Federal) Department of the Environment and Energy for environmental impact assessment under the EPBC Act. The proponent is advised to contact the Department of the Environment and Energy for further information regarding notification and referral responsibilities under the EPBC Act.

It is the proponent's responsibility to liaise with the Department of Water and Environmental Regulation and the Department of Biodiversity Conservation and Attractions, 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** DPLH (2018)

## 4. References

- ACH (2018) Application for a Clearing Permit (purpose permit). ACH Minerals Pty Ltd. June 2018.
- BoM (2018) Bureau of Meteorology Website – Climate Data Online, Ravensthorpe. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 2 October 2018).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DBCA (2018) Advice received in relation to Programme of Work Application Reg ID 73338. Environmental Management Branch, Department of Biodiversity, Conservation and Attractions, Western Australia, June 2018.
- DoE (2014) Proteaceae Dominated Kwongan Shrubland: a nationally-protected ecological community. Department of the Environment.
- DPLH (2018) Aboriginal Heritage Enquiry System. Department of Planning, Lands and Heritage. <http://maps.daa.wa.gov.au/AHIS/> (Accessed 2 October 2018).
- Government of Western Australia (2018) 2017 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Hickman, E.J. (2011) Philips River Project Bandalup Pools Drill Line Proposal 2011 Threatened Flora and Threatened Ecological Communities Survey. Albany, 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.

## 5. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>DAA</b>	Department of Aboriginal Affairs, Western Australia (now DPLH)
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia (now DPIRD)
<b>DBCA</b>	Department of Biodiversity Conservation and Attractions, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia (now DBCA and DWER)
<b>DEE</b>	Department of the Environment and Energy, Australian Government
<b>DER</b>	Department of Environment Regulation, Western Australia (now DWER)
<b>DMIRS</b>	Department of Mines, Industry Regulation and Safety, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia (now DMIRS)
<b>DPIRD</b>	Department of Primary Industries and Regional Development, Western Australia
<b>DPLH</b>	Department of Planning, Lands and Heritage, Western Australia
<b>DRF</b>	Declared Rare Flora
<b>DoE</b>	Department of the Environment, Australian Government (now DEE)
<b>DoW</b>	Department of Water, Western Australia (now DWER)
<b>DPaW</b>	Department of Parks and Wildlife, Western Australia (now DBCA)
<b>DSEWPaC</b>	Department of Sustainability, Environment, Water, Population and Communities (now DEE)
<b>DWER</b>	Department of Water and Environmental Regulation, Western Australia
<b>EPA</b>	Environmental Protection Authority, Western Australia
<b>EP Act</b>	<i>Environmental Protection Act 1986</i> , Western Australia
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (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>PEC</b>	Priority Ecological Community, Western Australia
<b>RIWI Act</b>	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
<b>TEC</b>	Threatened Ecological Community

### Definitions:

{DPaW (2017) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

<b>T</b>	<p><b>Threatened species:</b> Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i>, listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).</p> <p><b>Threatened fauna</b> is that subset of ‘Specially Protected Fauna’ declared to be ‘likely to become extinct’ pursuant to section 14(4) of the Wildlife Conservation Act.</p> <p><b>Threatened flora</b> is flora that has been declared to be ‘likely to become extinct or is rare, or otherwise in need of special protection’, pursuant to section 23F(2) of the Wildlife Conservation Act.</p> <p>The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.</p>
<b>CR</b>	<p><b>Critically endangered species</b> Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i>, in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.</p>
<b>EN</b>	<p><b>Endangered species</b> Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i>, in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.</p>



- VU Vulnerable species**  
Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.
- EX Presumed extinct species**  
Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora.
- IA Migratory birds protected under an international agreement**  
Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- CD Conservation dependent fauna**  
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- OS Other specially protected fauna**  
Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- P Priority species**  
Species which are poorly known; or  
Species that are adequately known, are rare but not threatened, and require regular monitoring. Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.
- P1 Priority One - Poorly-known species:**  
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
- P2 Priority Two - Poorly-known species:**  
Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
- P3 Priority Three - Poorly-known species:**  
Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
- P4 Priority Four - Rare, Near Threatened and other species in need of monitoring:**  
(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.  
(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for Vulnerable, but are not listed as Conservation Dependent.  
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.