



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 6688/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: **Lake Hillman Mining Pty Ltd**

### 1.3. Property details

Property: Mining Lease 70/319  
Local Government Area: Shire of Dalwallinu  
Colloquial name: N/A

### 1.4. Application

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

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 8 October 2015

## 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 for the whole of Western Australia. Two Beard vegetation associations have been mapped within the application area (GIS Database):

**Beard vegetation association 125:** Bare areas; salt lakes; and

**Beard vegetation association 631:** Succulent steppe with woodland and thicket; York gum over *Melaleuca thyooides* & samphire.

Landform Research has visited the application area and surrounding locations over a number of years and has informally assessed the vegetation and rehabilitation in the local area on a number of occasions, at various times of the year and under different local climate and weather conditions. The vegetation has been assessed on 8 November 2007, on 19 June 2008 and on 3 April 2009 and the site inspected each year with the latest in June 2014. Based off these surveys, one vegetation community has been identified within the application area:

Chenopod ground cover to 200 mm high, dominated by scattered *Tecticornia permgranulata* with some *Tecticornia doleiformis* and occasional other species.

**Clearing Description** Lake Hillman Mining

Lake Hillman Mining Pty Ltd proposes to clear up to 30.7 hectares of native vegetation within a total boundary area of approximately 30.712 hectares for the purpose of mineral production. The proposal is located approximately 4.2 kilometres north east of Kalannie in the Shire of Dalwallinu.

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

To

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

**Comment** The vegetation condition was assessed by Landform Research (2015).

## 3. Assessment of application against clearing principles

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

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

The application area occurs within the AW1 - Ancient Drainage subregion of the Avon Wheatbelt bioregion of the Interim Biogeographic Regionalisation of Australia (IBRA) (GIS Database). This subregion is characterised by proteaceous scrubheaths, rich in endemics, on residual lateritic uplands and derived sandplains; mixed

eucalypt, *Allocasuarina huegeliana* and Jam-York Gum woodlands on Quaternary alluvials and eluvials. (CALM, 2002). There is no connected drainage; salt lake chains occur as remnants of ancient drainage systems that now only function in very wet years (CALM, 2002). The vegetation described within the application area is typical of the bioregion (Landform Research, 2015).

A flora and vegetation survey of the application area identified six native species from four families as being present (Landform Research, 2015). This is not considered to be floristically diverse. The plant density was not assessed because of the restricted number of species present within the application area (Landform Research, 2015). One vegetation community has been identified within the application area: Chenopod ground cover to 200 mm high, dominated by scattered *Tecticornia permgranulata* with some *Tecticornia doleiformis* and occasional other species (Landform Research, 2015). This vegetation community has been identified as being in a good to degraded condition (Keighery, 1994; Landform Research, 2015).

No Threatened Flora or Priority flora have been identified within the application area (Landform Research, 2015). One species of the genus *Frankenia* was recorded within the application area. The Threatened flora *Frankenia conferta* has been identified in the Lake Hillman area from several locations as well as the presumed extinct flora species *Frankenia parvula* (Landform Research, 2015). The *Frankenia* species recorded on site was examined extensively under microscope and found to compare to *Frankenia pauciflora* that is found from the Goldfields to the coast. The species was subsequently confirmed as *Frankenia pauciflora* (Landform Research, 2015).

There are no known Threatened Ecological Communities (TECs), Priority Ecological Communities (PECs), Threatened flora or Priority flora mapped within the application area (GIS Database). During a flora and vegetation survey, no TECs or PECs were recorded within the application area (Landform Research, 2015). The nearest Threatened or Priority Ecological Community is the Wongan Hills (PEC 4), which is located approximately 68 kilometres to the south-west of the application area (GIS Database).

The proposed vegetation clearing has the potential to introduce weed species into the local area should adequate hygiene practices not be put in place. Weeds can affect biodiversity in a number of ways, including out competing native species for resources and increasing the fire risk. The potential spread of introduced species as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

From a fauna perspective, no detailed surveys have been undertaken to measure the species richness of the application area. However, based on assessment of fauna habitat it is not likely that the area applied to clear would support a higher level of fauna species diversity than any other area in the local area or region (GIS Database; Landform Research, 2015).

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

**Methodology** CALM (2002)  
Keighery (1994)  
Landform Research (2015)  
GIS Database:  
- IBRA WA (Regions - Sub Regions)  
- Threatened and Priority Flora  
- Threatened Ecological Sites Buffered

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

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

A fauna survey was not conducted over the application area, however, observations were made during the vegetation survey. Landform Research (2015) notes that the vegetation provides some habitat for birds and other small fauna and states water birds such as Avocets have been recorded nesting at Lake Hillman and on the ridge within previously rehabilitated areas. Landform Research (2015) states the number of species is likely to be restricted due to the sparseness of the vegetation. The application area also has habitat value as a remnant within a highly cleared agricultural landscape. However, given its location within a salt lake and the sparseness of the vegetation, it is unlikely to comprise a significant ecological linkage.

According to the online Department of Parks and Wildlife (DPaW) database, Naturemap, one mammal, 63 bird, 18 invertebrate and eight reptile species have been recorded within a 20 kilometre radius of the application area (DPaW, 2015). Of these, the following conservation significant species have been recorded:

- Western Spiny-tailed Skink (*Egernia stokesii* subsp. *badia*) – Schedule 1; Endangered;
- Fairy Shrimp (*Paratemia contracta*) – Priority 1;
- Woma (*Aspidites ramsayi*) – Schedule 4;
- Major Mitchell's Cockatoo (*Cacatua leadbeateri*) – Schedule 4;
- Carpet Python (*Morelia spilota* subsp. *imbricata*) – Schedule 4; and
- Hooded Plover (*Charadrius rubricollis*) – Priority 4.

Based on their habitat preferences and ecology, the above listed species excluding *Paratemia contracta* are

not likely to depend on the application area as significant habitat. *Paratemia contracta* is a brine shrimp that is found in acidic salt lakes in Southwestern Australia (Conte & Geddes, 1988). There is a record from 1941 of this species occurring in a pool in the basin of Lake Cowcowing (Landform Research, 2015). A small part of the application area includes vegetation that is located on the lake bed (Landform Research, 2015). As there is not much known about this species it is difficult to determine if the proposed clearing will have an impact on this species. However, as it is an aquatic species the proposed clearing would not be expected to significantly impact its habitat.

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

**Methodology** Conte & Geddes (1988)  
DPaW (2015)  
Landform Research (2015)

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

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

According to available databases, there are no records of Threatened flora within the application area (GIS Database). One population of the Threatened Flora species, *Frankenia conferta*, has been recorded approximately 1.8 kilometres east of the application area (GIS Database).

No Threatened flora have been recorded during the vegetation survey undertaken by Landform Research (2015). Specimens of the genus *Frankenia* were identified within the application area (Landform Research, 2015). As *Frankenia conferta* has been identified within close proximity to the application area, the *Frankenia* identified on site was examined extensively under microscope and found to compare to the species *Frankenia pauciflora* that occurs widely on salt lakes throughout the wheatbelt (Landform Research, 2015). The species was subsequently confirmed as *Frankenia pauciflora* (Landform Research, 2015).

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

**Methodology** Landform Research (2015)  
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 is not likely to be at variance to this Principle**

A search of the available databases showed that there are no known Threatened Ecological Communities (TECs) situated within 100 kilometres of the application area (GIS Database).

The vegetation survey by Landform Research (2015) did not record any TECs within the application area.

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

**Methodology** Landform Research (2015)  
GIS Database:  
- Threatened Ecological Sites Buffered

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

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

The application area lies within the Avon Wheatbelt Interim Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 18.55% of the pre-European vegetation remains (see table) (Government of Western Australia, 2014; GIS Database).

The vegetation in the application area is broadly mapped as Beard vegetation associations 125 and 631 (GIS Database):

125: Bare areas; salt lakes; and

631: Succulent steppe with woodland and thicket; York gum over *Melaleuca thyoides* & samphire.

According to the Government of Western Australia (2014) there is approximately 90% of Beard vegetation association 125 remaining in the State and approximately 10% remaining in the Avon Wheatbelt Bioregion (see table below). There is approximately 47% of Beard Vegetation 631 remaining in the State and approximately 46% remaining in the Avon Wheatbelt Bioregion (see table below).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPAW

					Managed Lands
IBRA Bioregion - Avon Wheatbelt	9,517,110	1,765,881	~18.55	Vulnerable	~2.39
Beard vegetation associations - State					
125	3,485,787	3,146,498	~90.27	Least Concern	~8.99
631	106,853	50,244	~47.02	Depleted	~11.6
Beard vegetation associations - Bioregion					
125	167,448	16,291	~9.73	Vulnerable	~20.04
631	104,051	47,875	~46.01	Depleted	~9.67

\* Government of Western Australia (2014)

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

Aerial imagery shows the application area is located within an area that has been extensively cleared (GIS Database). Salt lakes comprise a majority of the uncleared land in the Shire of Dalwallinu, and are significant remnants within the Shire and local area. The lakes are important for fauna as they provide refuge and an ecological linkage between remaining vegetated areas.

The gypsum dune on which the application area is located has already been mostly disturbed as a remnant by adjacent mining operations (Landform Research, 2015). Considering the application area is located within Lake Hillman, has sparse vegetation cover and is adjacent to mining operations it is considered unlikely to represent a significant ecological linkage or provide a significant buffer or refuge role. The proposed clearing of 30.7 hectares will be rehabilitated to lake bed vegetation, and the taking of gypsum will therefore not lead to any significant decrease in the total area of vegetation association 125 in the longer term (Landform Research, 2015). Given the above, it is unlikely the proposed clearing of 30.7 hectares represents a significant remnant of native vegetation.

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

**Methodology** Department of Natural Resources and Environment (2002)  
Government of Western Australia (2014)  
GIS Database:  
- IBRA WA (regions – subregions)  
- Pre-European Vegetation

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

**Comments Proposal is at variance to this Principle**

According to available databases, the application area forms part of a ridge or dune located in a non-perennial lake known as Lake Hillman (GIS Database; Landform Research, 2015). This ridge rises approximately one to two metres above the surrounding lake bed, which is saline and only fills with water occasionally as a result of cyclonic rainfall events (Landform Research, 2015). Generally only small areas of water will occur as a result of local winter rainfall and the ridges are never flooded (Landform Research, 2015).

Lake Hillman is a saline lake with a covering of fine gypsum clays overlain by a salt crust (Landform Research, 2015). It is located in the Yarra Monger Catchment within the Yarra Yarra Drainage Basin and is part of a chain of several thousand ephemeral saltlakes, playas and samphire-covered claypans, that stretch for approximately 300 kilometres and cover an area of 250,000 hectares (DEC, 2008). The major lakes in the system include Nullewa Lake, Weelhamby Lake, Mongers Lake, Lake DeCourey, Lake Goorly, Lake Hillman and Yarra Yarra Lake, which is the terminal point of the system (Fordyce, 2005). Due to the flat terrain of the Yarra Yarra system, drainage is generally uncoordinated and each lake has its own internal drainage system, however, in wet years, the lakes overflow along a broad drainage line, ending in Yarra Yarra Lake (Fordyce, 2005; NACC 2005).

Given the application area occurs on a ridge located on a lake bed, vegetation within the application area is growing in association with a waterbody. According to Landform Research (2015), the species identified are common species. Given the size of the lake (approximately 3,500 hectares) and the adjacent mining operations, the proposed clearing is not expected to have any significant additional impacts on the environmental values of Lake Hillman.

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

**Methodology** DEC (2008)  
Fordyce (2005)

Landform Research (2015)  
NACC (2005)  
GIS Database:  
- Geodata, 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 may be at variance to this Principle**

The soil type within the application area is described as saline valleys and salt lakes – salt lake channels, mostly devoid of true soils, and their fringing areas: commons soils are gypseous and saline loams on riverine wash and usually underlain by clayey or sandy strata by about 12 inches (GIS Database, Schoknecht, 2002).

A land degradation assessment over the application area has previously been undertaken by the Department of Agriculture and Food (DAFWA) on 10 May 2012. DAFWA (2012) noted that the application area is within an area of primary salinity and stated that no significant change in salinity would be expected. Both water erosion and waterlogging are considered unlikely to occur due to the soil types present and as a result no significant change is expected (DAFWA, 2012). The potential for land degradation from salinity, eutrophication, water erosion, flooding and waterlogging were assessed to be low (DAFWA, 2012). However, the risk of wind erosion was assessed to be very high once the protective vegetation is removed. DAFWA (2012) advised that this risk can be managed by careful management of topsoil and vegetation residue during the clearing operation for the progressive rehabilitation of disturbed cells after mining. Potential impacts from wind erosion as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

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

**Methodology** DAFWA (2012)  
Schoknecht (2002)  
GIS Database:  
- Soils, Statewide

**(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 does not lie within any conservation areas or Department of Parks and Wildlife managed lands (GIS Database). The nearest conservation area is the Old Store Nature Reserve, located approximately 6.3 kilometres south of the application area (GIS Database). The application area is not likely to form part of an ecological linkage to the nature reserve. Based on the distance between the application area and the Old Store Nature Reserve, the proposed clearing is not likely to impact the environmental values of any conservation area.

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

**Methodology** GIS Database:  
- DPaW Tenure

**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

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

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The application area is part of a ridge located on the bed of an ephemeral lake known as Lake Hillman (GIS Database). Generally only small areas of water occur in the lake following local winter rainfall, however, the lake can fill as a result of cyclonic rainfall events (Landform Research, 2015). In wet years the lake may overflow and connect with other salt lakes in the Yarra Monger Catchment (Fordyce, 2005; NACC, 2005).

According to available databases, groundwater salinity within the application area is in excess of 35,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). Previous advice by DAFWA (2012) has identified that extensive salinity occurs in the area and no significant change in salinity is expected as a result of the proposed clearing. The land degradation assessment also found that the potential for land degradation from eutrophication, flooding, water erosion and waterlogging as a result of clearing to be low (DAFWA, 2012). However, the risk of wind erosion has previously been assessed to be very high and this may result in increased sedimentation in surface water. DAFWA (2012) advised that this risk can be managed by careful management of topsoil and vegetation residue during the clearing operation for the progressive rehabilitation of disturbed cells after mining. Potential impacts from wind erosion as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

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

**Methodology** DAFWA (2012)  
Fordyce (2005)  
Landform Research (2015)  
NACC (2005)  
GIS Database:  
- Groundwater Salinity, Statewide  
- Hydrography, linear  
- Public Drinking Water Source Areas (PDWSAs)

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

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

The application area is located within the Yarra Monger catchment area (GIS Database). Given the size of the area to be cleared (30.7 hectares) in relation to the size of the catchment area (4,182,476 hectares) (GIS Database), the proposed clearing is not likely to increase the potential of flooding on a local or catchment scale.

Lake Hillman is an ephemeral saline lake that only fills after cyclonic rainfall events (Landform Research, 2015). The scale of the proposed clearing (30.7 hectares) in relation to the size of Lake Hillman (approximately 3,500 hectares) is unlikely to increase the potential for flooding (GIS Database).

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

**Methodology** Landform Research (2015)  
GIS Database:  
- Geodata, Lakes  
- Hydrographic Catchments – Catchments

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

**Comments**

There are no native title claims over the area under application (GIS Database). 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*.

According to available databases, there is one registered Aboriginal Site of Significance within the 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.

It is the proponent's responsibility to liaise with the Department of Environment Regulation, Department of Parks and Wildlife 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.

The clearing permit application was advertised on 24 August 2015 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

**Methodology** DAA (2015)  
GIS Database:  
- Aboriginal Sites of Significance

#### 4. References

- BoM (2015) Climate Statistics for Australian Locations. A Search for Climate Statistics for Marble Bar, Australian Government Bureau of Meteorology, viewed 5 October 2015, <[http://www.bom.gov.au/climate/averages/tables/cw\\_012038.shtml](http://www.bom.gov.au/climate/averages/tables/cw_012038.shtml)>.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, Western Australia.
- Conte, F.P. & Geddes, M.C. (1988) Acid brine shrimp: Metabolic strategies in osmotic and ionic adaptation. *Hydrobiologia*, 158: 191 - 200.
- DAA (2015) Aboriginal Heritage Inquiry System, Government of Western Australia, Department of Aboriginal Affairs, Perth, viewed 5 October 2015 < <http://maps.dia.wa.gov.au/AHIS2/>>.
- DAFWA (2012) Advice to the assessing officer for clearing permit application CPS 4961/1. Received on 28 May 2012.
- DEC (2008) Resource Condition Report for a Significant Western Australian Wetland: Lake Goorly. Department of Conservation and Land Management, Western Australia.
- 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.
- DPaW (2015) NatureMap - Mapping Western Australia Biodiversity, Department of Parks and Wildlife, viewed 5 October 2015,

< <http://naturemap.dpaw.wa.gov.au/default.aspx>>.

- Fordyce (2005) Final report on Feasibility Study 2003-2005. Yarra Yarra Catchment Management Group and Northern Agricultural Catchments Council Kalannie, Australia.
- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Landform Research (2015) Flora and Vegetation Assessment In support for Clearing Permit. M70/319 Lake Hillman Mining Pty Ltd. Unpublished report for Lake Hillman Mining Pty Ltd, Dated June 2015.
- NACC (2005) Regional Natural Resource Management Strategy: Northern Agricultural Region of Western Australia. Northern Agricultural Catchments Council, Perenjori, Australia.
- Schoknecht (2002) Soil Groups of Western Australia. A simple guide to the main soils of Western Australia. Resource Management Technical Report 246. Edition 3.

## 5. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>DAA</b>	Department of Aboriginal Affairs, Western Australia
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia (now DPaW and DER)
<b>DER</b>	Department of Environment Regulation, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia
<b>DRF</b>	Declared Rare Flora
<b>DotE</b>	Department of the Environment, Australian Government
<b>DoW</b>	Department of Water, Western Australia
<b>DPaW</b>	Department of Parks and Wildlife, Western Australia
<b>DSEWPaC</b>	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
<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>s.17</b>	Section 17 of <i>the Environment Protection Act 1986</i> , Western Australia
<b>TEC</b>	Threatened Ecological Community

## **Definitions:**

{DPaW (2013) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia):-

- T**            **Threatened species:**  
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna or the Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).  
  
Threatened Fauna and Flora are further recognised by the Department according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo *Calyptorhynchus latirostris* is specially protected under the *Wildlife Conservation Act 1950* as a threatened species with a ranking of Endangered.  
  
Rankings:  
CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild.  
EN: Endangered - considered to be facing a very high risk of extinction in the wild.  
VU: Vulnerable - considered to be facing a high risk of extinction in the wild.
- X**            **Presumed Extinct species:**  
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora (which may also be referred to as Declared Rare Flora).
- IA**          **Migratory birds protected under an international agreement:**  
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice.  
Birds that are subject to an agreement between governments of Australia and Japan, China and The Republic of Korea relating to the protection of migratory birds and birds in danger of extinction.
- S**            **Other specially protected fauna:**  
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- P1**          **Priority One - Poorly-known species:**  
Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, rail reserves and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.
- P2**          **Priority Two - Poorly-known species:**  
Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.
- P3**          **Priority Three - Poorly-known species:**  
Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities 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 localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.
- 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 do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.  
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.
- P5**          **Priority Five - Conservation Dependent species:**  
Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.