



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 8642/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Saracen Metals Pty Ltd

### 1.3. Property details

Property: Mining Lease 36/35  
Mining Lease 36/177  
Mining Lease 36/421  
Mining Lease 36/462  
Mining Lease 36/494  
Mining Lease 36/516  
Mining Lease 36/527  
Mining Lease 36/541  
Mining Lease 36/586  
Mining Lease 36/587

Local Government Area: Shire of Leonora  
Colloquial name: Double A – Otto Bore Project

### 1.4. Application

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

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 10 October 2019

## 2. Site Information

### 2.1. Existing environment and information

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

**Vegetation Description** The vegetation of the application area is broadly mapped as the following Beard vegetation associations:  
18: Low woodland; mulga (*Acacia aneura*); and  
28: Open low woodland; mulga (GIS Database).

A flora and vegetation survey was conducted over the application area by Botanica Consulting during March, 2018. The following vegetation associations were recorded within the application area (Botanica Consulting, 2018):

#### Clay-Loam Plain

##### **Acacia Forests and Woodland**

CLP-AFW1: Low woodland of *Acacia caesaneura/A. incurvaneura* over mid open shrubland of *Eremophila spectabilis* subsp. *brevis* and low tussock grassland of *Eragrostis eriopoda/Monachather paradoxus* on clay-loam plain;

#### Open Depression

##### **Acacia Forests and Woodland**

OD-AFW1: Low woodland of *Acacia caesaneura/A. incurvaneura* over tall open shrubland of *Acacia tetragonophylla* and low open tussock grassland of *Eragrostis eriopoda/Monachather paradoxus* in open depression;

#### Quartz-Rocky Plain

##### **Acacia Open Woodland (MVG 13)**

QRP-AOW1: Low open woodland of *Acacia incurvaneura* over mid open shrubland of *Eremophila spectabilis* subsp. *brevis* and low open tussock grassland of *Monachather paradoxus* on quartz-rocky plain;

##### **Other Shrubland (MVG 17)**

QRP-OS1: Tall sparse shrubland of *Hakea preissii* over low shrubland of *Ptilotus obovatus/Maireana triptera* on quartz-rocky plain;

#### Rocky Hillslope

##### **Acacia Open Woodland (MVG 13)**

RH-AOW1: Low open woodland of *Acacia mulganeura/A. incurvaneura* over mid sparse shrubland of *Eremophila conglomerata* and low open shrubland of *Ptilotus obovatus* over low sparse tussock grassland of *Eragrostis*

*eriopoda/Monachather paradoxus* on rocky hillslope;

RH-AOW2: Low open woodland of *Acacia quadrimarginea/A. incurvaneura* over tall open shrubland of *Thryptomene decussata* and low open shrubland of *Ptilotus obovatus* on rocky hillslope;

**Eucalypt Woodland (MVG 5)**

RH-EW1: Low woodland of *Eucalyptus clelandiorum/E. carnei* over mid open shrubland of *Eremophila pantonii* over low open shrubland of *Ptilotus obovatus/ Maireana triptera* on rocky hillslope;

**Sand Plain**

**Eucalypt Woodland (MVG 5)**

SP-EW1: Low woodland of *Eucalyptus gongylocarpa* over isolated clumps of *E. youngiana* mallee trees and mixed mid open shrubland over low hummock grassland of *Triodia basedowii* on sandplain.

<b>Clearing Description</b>	Double A – Otto Bore Project. Saracen Metals Pty Ltd proposes to clear up to 95 hectares of native vegetation within a boundary of approximately 3,088 hectares, for the purpose of mineral production. The project is located approximately 33 kilometres south-east of Leinster, within the Shire of Leonora.
<b>Vegetation Condition</b>	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994);  To  Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).
<b>Comment</b>	The vegetation condition was derived from a vegetation survey conducted by Botanica Consulting (2018).

### 3. Assessment of application against Clearing Principles

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

<b>Comments</b>	<p><b>Proposal is not likely to be at variance to this Principle</b></p> <p>The application is located within the East Murchison subregion of the Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The East Murchison subregion is characterised by internal drainage and elevated red desert sandplains, dominated by Mulga Woodland with hummock grasslands and saltbush or Halosarcia shrublands (CALM, 2002).</p> <p>The vegetation within the application area is mapped as belonging to Beard associations 18 and 28 (GIS Database). A Level 1 flora and vegetation survey of the project area was conducted by Botanica Consulting (2018). A total of 8 vegetation associations were recorded within the application area, which ranged from Good to Very Good condition (Keighery, 1994; Botanica, 2018). A total of 161 flora taxa from 32 families and 72 genera were recorded by Botanica Consulting (2018). Floristic diversity within the application area is considered to be high, however Botanica Consulting (2018) advise that most species have wide distributions and occur in one or more subregions. Using the Naturemap database (DBCA, 2018), seven priority flora species and no Threatened flora species are known to occur within 20 kilometres of the application area.</p> <p>During the flora survey, no conservation significant species were recorded within the application area (Botanica, 2018). Desktop assessments identified three locations of the Priority 3 Flora taxon, <i>Thryptomene</i> sp. Leinster (B.J. Lepschi &amp; L.A. Craven 4362) within the broader survey area. The locations of this taxon were not able to be positively identified at the time of the survey, due to lack of flowering material. Habitat and vegetation characteristics (rocky hillslopes dominated by Mulga) identified at the locations during the flora survey are consistent with habitat requirements for this taxon, therefore it is considered likely that this taxon occurs within the application area. <i>Thryptomene</i> sp. Leinster has a relatively broad distribution, occurring across the Murchison bioregion (DBCA, 2018). A total of 1077 hectares of suitable habitat for this species occurs within the broader survey area (Botanica Consulting, 2018). With consideration to the distribution of this species and the area of suitable habitat within the application boundary, the proposed clearing is not likely to impact the conservation of this species.</p> <p>None of the vegetation communities represented a Threatened Ecological Community (TEC) or Priority Ecological Community (PEC), which is consistent with available databases (GIS Database).</p> <p>Previous surveys from the area identified a total of nine introduced flora species within the application area, including Buffel Grass (<i>Cenchrus ciliaris</i>), Ruby Dock (<i>Acetosa vesicaria</i>), Pie Melon (<i>Citrullus lanatus</i>), Prickly Paddy Melon (<i>Cucumis myriocarpus</i>), Doublegee (<i>Emex australis</i>), Blue Pimpernel (<i>Lysimachia arvensis</i>), Wild Sage (<i>Salvia verbenaca</i>), Nightshade (<i>Solanum nigrum</i>), and Common Sowthistle (<i>Sonchus oleraveus</i>) (Botanica, 2014). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area (DEC, 2011). Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.</p>
-----------------	---

Using a 20 kilometre search radius, the NatureMap database returned results for 56 avian, 11 reptile and two mammal species (DBCA, 2018). The low number of fauna species recorded is likely to represent search effort rather than a depauperate fauna community.

A number of conservation significant fauna species may be present within the application area, including the Malleefowl (*Leipoa ocellata*; Vulnerable), Peregrine Falcon (*Falco peregrinus*; Other Specially Protected Species), Migratory Shorebirds (Various species; Migratory), Grey Wagtail (*Motacilla cinerea*; Migratory), Yellow Wagtail (*Motacilla flava*; Migratory), Fork-tailed Swift (*Apus pacificus*; Migratory), Night Parrot (*Pezoporus occidentalis*; Critical), Princess Parrot (*Polytelis alexandrae*; Vulnerable), Long-tailed Dunnart (*Sminthopsis longicaudata*; Priority 4), Greater Bilby (*Macrotis lagotis*; Vulnerable), Brush-tailed Mulgara (*Dasyercus blythi*; Priority 4) and Chuditch (*Dasyurus geoffreyi*; Vulnerable) (Botanica Consulting, 2018).

The fauna survey by Botanica Consulting (2018) advised that the local area was not likely to represent an area of unusually high fauna diversity for the Goldfields region. Furthermore, large areas have been previously cleared for mining and associated infrastructure, and the remaining fauna community is unlikely to represent an area of high biodiversity.

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

**Methodology** CALM (2002)  
Botanica (2014)  
Botanica Consulting (2018)  
DBCA (2018)  
DEC (2011)  
Keighery (1994)

GIS Database:

- IBRA Australia
- Pre-European Vegetation
- Threatened and Priority Flora
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers
- 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 was undertaken over the application area and surrounds in March 2018 covering an area of 4,386 hectares (Botanica Consulting, 2018). The following six fauna habitats were recorded during the survey (Botanica Consulting, 2018):

- Clay-Loam Plains
- Open Depression
- Quartz-Rocky Plain
- Rocky Hillslopes
- Sand Plains
- Existing Disturbed Areas

Based on aerial imagery, the habitat types within the application boundary are widespread in the surrounding region (GIS Database). The application area is not likely to contain significant habitat features which are restricted on a local or regional scale.

A total of 12 conservation significant fauna species may potentially occur in or around the application area based on previous records for the region (Botanica Consulting, 2018). Based on these records and analysis of the habitat present within the application area, the following three species of conservation significance can be regarded as possibly utilising the area:

Peregrine Falcon (*Falco peregrinus*; Other Specially Protected Species): This species potentially utilises some sections of the survey area as part of a much larger home range, though records in this area are rare and therefore it is likely to be present occasionally. No potential nest sites were observed and the proposed clearing is not considered likely to result in a significant impact (Botanica Consulting, 2018).

Brush-tailed Mulgara (*Dasyercus blythi*; Priority 4): A limited amount of suitable habitat for this species is present (sandplains) within the application area. However, no impact on this species or its habitat is however considered likely given no site works are proposed in its area preferred habitat (Botanica Consulting, 2018).

Long-tailed Dunnart (*Sminthopsis longicaudata*; Priority 4): The actual status of this species in the survey area is difficult to determine due to a paucity of actual records in the immediate area, however is considered a

potential species based on the presence of apparently suitable habitat (Botanica Consulting, 2018). No significant impact on this species or its habitat is considered likely given the limited extent of proposed site works and large extent of similar habitats in the adjoining area (Botanica Consulting, 2018).

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

**Methodology** Botanica Consulting (2018)  
DBCA (2019)

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). Flora surveys of the application area did not record any species of Threatened flora (Botanica Consulting, 2018).

The vegetation associations within the application area are common and widespread within the region (Botanica Consulting, 2018; GIS Database), and 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** Botanica Consulting (2018)

GIS Database:  
- Pre-European Vegetation  
- 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**

There are no known Threatened Ecological Communities (TECs) located within or in close proximity to the application area (GIS Database).

A flora and vegetation survey of the application area did not identify any TECs (Botanica Consulting, 2018).

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

**Methodology** Botanica Consulting (2018)

GIS Database:  
- Threatened and Priority Ecological Communities Boundaries  
- Threatened and Priority Ecological Communities Buffers

**(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 falls within the Murchison Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 99% of the pre-European vegetation still exists in the IBRA Murchison Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation associations 18: Low woodland; mulga (*Acacia aneura*); and 28: Open low woodland; mulga (GIS Database). Approximately 99% of the pre-European extent of each of these vegetation associations remains uncleared at the state level, and 99% for the bioregional level of vegetation association 18 and 98% for the bioregional level of vegetation association 28 (Government of Western Australia, 2019).

Therefore, the application area does not represent a significant remnant of native vegetation in an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DBCA managed lands
IBRA Bioregion – Murchison	28,120,587	28,044,823	~99	Least Concern	7.79
Beard vegetation associations – WA					
18	19,892,306	19,843,148	~99	Least Concern	6.64
28	395,895	392,172	~99	Least Concern	
Beard vegetation associations – Murchison Bioregion					
18	12,403,172	12,363,252	~99	Least Concern	4.97
28	224,292	220,584	~98	Least Concern	

\* Government of Western Australia (2019)

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

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 (2019)

GIS Database:

- IBRA Australia
- 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**

There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). Numerous seasonal creek lines pass through the application area (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall (Botanica, 2018).

Based on the above, the proposed clearing is at variance to this Principle. Potential impacts to vegetation growing in association with the watercourse may be minimised by the implementation of a watercourse management condition.

**Methodology** Botanica (2018)

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 may be at variance to this Principle**

The application area intersects 14 land systems, including: Bevon, Duketon, Gransal, Gundockerta, Jundee, Laverton, Leonora, Monitor, Monk, Nubev, Rainbow, Tiger, Violet, and Wilson (GIS Database). Of these land systems, ten are moderately to highly susceptible to soil erosion. Water erosion within these land systems is a particular risk when areas of surface water drainage are disturbed (Pringle et al., 1994).

Although the soil type outside of water drainage areas generally consists of shallow soils on hardpan or a stony mantle (Pringle et al., 1994), the removal of vegetation on a large scale leads to an increased potential for topsoil erosion and water erosion following heavy rainfall. Land degradation as a result of wind or water erosion may be minimised by the implementation of a staged clearing condition.

Previous surveys identified a total of nine weed species within the survey area (Botanica, 2014). Of these, *Emex australis* (Doublegee) is a Declared Plant under the *Biosecurity and Agriculture Management Act 2007*. Further land degradation as a result of weed invasion may be minimised by the implementation of a weed management condition.

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

**Methodology** Botanica (2014)  
Pringle et al. (1994)

GIS Database:  
- Landsystem Rangelands  
- 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 is not located within any conservation areas managed by the Department of Biodiversity, Conservation and Attractions (GIS Database). The nearest conservation area is the Bulga Downs former pastoral lease, which is proposed for conservation and is located approximately 55 kilometres west of the application area (GIS Database). From this distance, the proposed clearing is not likely to impact the environmental values of this 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 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 area (GIS Database). There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. The proposed clearing is unlikely to result in significant changes to surface water flows.

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 semi-arid, with a low average rainfall of approximately 223 millimetres per year (BoM, 2019). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (Botanica Consulting, 2018).

There are no permanent water courses or waterbodies within the application area (GIS Database). Seasonal drainage lines are common in the region and temporary localised flooding may occur briefly following heavy rainfall 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 (2019)  
Botanica Consulting (2018)  
  
GIS Database:  
- Hydrographic Catchments - Catchments  
- Hydrography, linear

## Planning Instrument, Native Title, previous EPA decision or other matter.

### Comments

The clearing permit application was advertised on 2 September 2019 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. No submissions were received in relation to this application.

There are no native title claims over the area under application (DPLH, 2019). However, 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*.

There are several registered Aboriginal Sites of Significance within the application area (DPLH, 2019). 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 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 (2019)

## 4. References

- BoM (2019) Bureau of Meteorology Website – Climate Data Online, Leinster. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 7 October 2019).
- Botanica (2014) Level 1 Flora and Vegetation Survey of the Thunderbox to Bannockburn Project. Consultant's report prepared by Botanica Consulting for Saracen Metals Pty Ltd, 2014.
- Botanica Consulting (2018) Reconnaissance Flora & Fauna Assessment Otto Bore. Unpublished report prepared for Saracen Metals Pty Ltd by Botanica Consulting, May 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) NatureMap: Mapping Western Australia's Biodiversity. Department of Biodiversity, Conservation and Attractions. <https://naturemap.dbca.wa.gov.au/> (Accessed 7 October 2019).
- DEC (2011) Invasive Plant Prioritisation. Department of Environment and Conservation, Perth.
- DPLH (2019) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <http://maps.daa.wa.gov.au/AHIS/> (Accessed 7 October 2019).
- 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.
- Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Pringle, H.J.R., Van Vreeswyk, A.M.E and Gilligan, S.A (1994). An inventory and condition survey of rangelands in the north-eastern Goldfields, Western Australia. Department of Agriculture, South Perth.
- Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/> (Accessed 7 October 2019).

## 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>DoEE</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 DoEE)
<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 DoEE)
<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:**

{DBCA (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-

### **T            Threatened species:**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

**Threatened fauna** is that subset of ‘Specially Protected Fauna’ listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

**Threatened flora** is that subset of ‘Rare Flora’ listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

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.

### **CR            Critically endangered species**

Threatened species considered to be “*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

### **EN            Endangered species**

Threatened species considered to be “*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

### **VU            Vulnerable species**

Threatened species considered to be “*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

## **Extinct Species:**

### **EX            Extinct species**

Species where “*there is no reasonable doubt that the last member of the species has died*”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

### **EW            Extinct in the wild species**

Species that “*is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at*



appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

### **Specially protected species:**

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

#### **MI Migratory species**

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes 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 fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

#### **CD Species of special conservation interest (conservation dependent fauna)**

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

#### **OS Other specially protected species**

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

#### **P Priority species:**

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species 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.