Government of Western Australia
Department of Mines, Industry Regulation and Safety

# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

**Permit application No.:** 8817/1
**Permit type:** Purpose Permit

### 1.2. Proponent details

**Proponent's name:** **Reed Exploration Pty Ltd**

### 1.3. Property details

**Property:** Exploration Licence 77/2220-I
**Local Government Area:** Shire of Kondinin
**Colloquial name:** Forrestania - Mt Holland Project

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|---|---|---|---|
| 1 | | Mechanical Removal | Mineral Exploration |

### 1.5. Decision on application

**Decision on Permit Application:** Grant
**Decision Date:** 23 April 2020

## 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 association:
511: Medium woodland; salmon gum & morrel (GIS Database).

A flora and vegetation survey was conducted over the application area by Animal Plant Mineral (APM) during August, September and November, 2019. The following vegetation associations were recorded within the application area (APM, 2019):

1-1: *Eucalyptus salubris* and *E. urna* mallee woodland over *Dodonaea stenozyga, D. ptarmicaefolia*, *Melaleuca teuthidoides* shrubland on mid to upper gentle slopes with brown sandy loam and ironstone gravel.

1-2: *Eucalyptus salubris* and *E. urna* mallee woodland over *Melaleuca teuthidoides*, *M. culcullata, Exocarpos aphyllus* open shrubland on mid to upper gentle slopes with brown sandy loam and ironstone gravel.

1-4: *Eucalyptus urna, E. neutra, E. extensa* mallee woodland over *Melaleuca teuthidoides, Dodonaea stenozyga, Exocarpos aphyllus* shrubland on upper slopes to crests with brown sandy loam and ironstone and granitic gravel.

3: *Calothamnus quadrifidus* subsp. *petraeus, Allocasuarina campestris, Acacia sulcata var. platyphylla* open shrubland over *Lepidosperma diurnum* sparse sedgeland on stony crests with brown clay loam.

8: *Eucalyptus oleosa* subsp. *oleosa*, *E. salmonophloia* woodland over *Eremophila decipiens* subsp. *decipiens, Dodonaea stenozyga, Olearia mulleri,* sparse shrubland in depressions/drainage areas on brown sandy loam.

**Clearing Description**

Forrestania-Mt Holland Project.
Reed Exploration Pty Ltd proposes to clear up to one hectare of native vegetation within a boundary of approximately 7.277 hectares, for the purpose of mineral exploration. The project is located approximately 80 kilometres east of Hyden, within the Shire of Kondinin.

**Vegetation Condition**

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

**Comment**

The vegetation condition was derived from a vegetation survey conducted by APM (2019).

## 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 Southern Cross (COO2) subregion of the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by gently undulating uplands dissected by broad valleys with bands of low greenstone hills (CALM, 2002). Diverse Eucalyptus woodlands rich in endemic Eucalyptus occur around salt lakes, low greenstone hills, valley alluvials and broad plains of calcareous earths (CALM, 2002). Mallees and scrub-heaths occur on uplands as well as sand lunettes associated with playas along the broad valley floors and sand sheets around the granite outcrops. The scrubs are rich in endemic acacias and Myrtaceae (CALM, 2002).

The application area is located within the Lake Cronin Area which is listed on the Register of National Estate due to its high level of flora and fauna diversity and endemism (AHD, 2020). The lake itself is located approximately 8 kilometres south east of the application area (GIS Database).

According to the Environmental Protection Authority (EPA), the region supports extensive shrubland, sandplain and woodland environments including an excellent representation of a range of vegetation types that are now extensively cleared in the Wheatbelt. Based on its high biodiversity conservation significance and competing land use interests, various forms of conservation reservation and management are proposed for the area (EPA, 2009). The application area is also located within an area proposed to be managed under section 33(2) of the *Conservation and Land Management Act 1984* and is adjacent to a proposed "A" class nature reserve (EPA, 2009), which is situated near the north west boundary of the application area. The proposed nature reserve was intended to protect the North Ironcap Iron Hill (EPA, 2009). To date, no formal protection currently exists over these areas.

No Threatened Ecological Communities (TECs) are known within the application area. The application area is located within the mapped extent of the Priority Ecological Community (PEC) "Ironcap Hill Vegetation Complexes", which includes Mt Holland, Middle Ironcap Hill, North and South Ironcap Hills, Digger Rock and Hatter Hill" (GIS Database). Given that the PEC has known extent of 25,184.377 hectares (GIS Database), the proposed clearing of one hectare of native vegetation represents less than 0.1% of the PEC. This being considered, significant impacts to the PEC are unlikely.

No Threatened flora or Priority flora were recorded within the application area. One individual of *Eutaxia acanthoclada* (Priority 3) was recorded adjacent to the application area, however is unlikely to be impacted by the proposed clearing.

An area search of the Department of Biodiversity, Conservation and Attractions' online fauna database conducted by the assessing officer suggests that the application area is diverse in avian and reptile species (DBCA, 2020). The database search found 129 avian and 47 reptile species as potentially occurring within the application area, or within a 20 kilometre radius of the application area. It is considered unlikely that the clearing of one hectare of native vegetation for the purpose of mineral exploration will have an impact on the biodiversity of fauna in the local area.

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

**Methodology**

AHD (2020)
CALM (2002)
DBCA (2020)
EPA (2009)

GIS Database:
- IBRA Australia
- Pre-European Vegetation
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers
- 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**

The assessing officer has conducted a search of the Department of Biodiversity, Conservation and Attractions' online fauna database comprising a 20 kilometre radius around the application area (DBCA, 2020).

This search identified eight Amphibian, 21 Mammalian, 129 Avian and 42 Reptilian species that may occur within the application area (DBCA, 2020). Of these, the following species of conservation significance have the

potential to occur within the application area: Chuditch (*Dasyurus geoffroii* – Threatened); Malleefowl (*Leipoa ocellata* – Threatened); Carnaby's Black-cockatoo (*Calyptorhynchus latirostris* – Threatened); Fork-tailed Swift (*Apus* pacificus - International Agreement); Sharp-tailed Sandpiper (*Calidris acuminata* - International Agreement); Peregrine Falcon (*Falco peregrinus* – Other Specially Protected Fauna); Lake Cronin Snake (*Paroplocephalus atriceps* – Priority 3); Tree-stem Trapdoor Spider (*Aganippe castellum* – Priority 4); Western Brush Wallaby (*Notamacropus irma* – Priority 4); and Western Rosella (*Platycercus icterotis subsp. Xanthogenys* – Priority 4).

Chuditch use a range of habitats, including forest, mallee shrublands, woodland, and desert. The densest populations have been found in riparian Jarrah forest. Chuditch require adequate numbers of den and refuge sites (horizontal logs or earth burrows) and prey availability (large invertebrates, reptiles, and small mammals) to persist locally (APM, 2019)., Much of the greater survey area provides suitable habitat for Chuditch, however, the application area does not contain hollows and no signs of Chuditch were recorded during the survey (APM, 2019).

During the two field surveys, three active Malleefowl nests, and one inactive nest, were located within the greater survey area, however, no Malleefowl mounds have been found within the application area and will not be impacted by the proposed clearing (APM, 2019). Extensive amounts of Malleefowl foraging habitat occurs throughout the local area and vicinity (APM, 2019); therefore the proposed clearing of one hectare of native vegetation is unlikely to significantly reduce the amount of available foraging habitat for Malleefowl.

Carnaby's Black-cockatoo is endemic to, and widespread in, the southwest of Western Australia. It occurs in uncleared or remnant native Eucalypt woodlands, especially those that contain Salmon Gum (*Eucalyptus salmonophloia*) and Wandoo (*E. wandoo*), and in shrubland or Kwongan heathland dominated by *Hakea*, *Banksia,* and *Grevillea* species. The greater survey area provides only marginal habitat for the Carnaby's Black-cockatoo, and no suitable nesting trees were identified within the application area or surrounding area (APM, 2019).

The Tree-stem Trapdoor Spider inhabits flood-prone depressions and flats, with myrtaceous shrub communities. Their burrows are designed with an aboveground entrance to withstand occasional sheet flooding (APM, 2019). Two records of the Tree-stem Trapdoor Spider exist near the application area; although, both are more than two kilometres from any proposed disturbance. The Tree-stem Trapdoor Spider burrows in flood-prone depressions and flats that support myrtaceous shrub communities which is not present within the application area.

The Western Brush Wallaby and the Western Rosella are not expected to be impacted by the proposed exploration as they are able to quickly move away from the area being disturbed. The proposed clearing does not represent a significant reduction in habitat for these species (APM, 2019).

The habitat present in the application area is not likely to be particularly valuable to the above species, due to the lack of hollow logs and trees, and the absence of proteaceous vegetation (APM, 2019).

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

**Methodology**

APM (2019)
DBCA (2020)

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 within the disturbance envelope (APM, 2019).

The vegetation associations within the application area are common and widespread within the region (APM, 2019; 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**

APM (2019)

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 (APM, 2019).

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

**Methodology**

APM (2019)

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 Coolgardie Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 98% of the pre-European vegetation still exists in the IBRA Coolgardie Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation association 511: Medium woodland; salmon gum & morrel (GIS Database). Approximately 74% of the pre-European extent of this vegetation association remains uncleared at the state level and approximately 94% at the bioregional level (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 – Coolgardie | 12,912,204 | 12,648,491 | ~98 | Least Concern | 16.72 |
| Beard vegetation associations – WA | | | | | |
| 511 | 700,693 | 520,615 | ~74 | Least Concern | 20.19 |
| Beard vegetation associations – Coolgardie Bioregion | | | | | |
| 511 | 464,424 | 435,177 | ~94 | Least Concern | 20.62 |

* 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 not at variance to this Principle**

There are no watercourses or wetlands within the area proposed to clear GIS Database).

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

**Methodology**

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**

According to available GIS Databases, there is one soil type (Ms8) within the application area. This soil type is described as:

**Ms8**
(i) on depositional slopes, sandy yellow earths containing some ironstone gravels at depths below 6-7 feet;
(ii) on erosional ridges and slopes, ironstone gravels all underlain by hardened mottled-zone material by depths of 12-24 inches (Bureau of Rural Sciences, 1992).

Sandy earths have a moderate to high risk of wind erosion while ironstone gravels have a low to moderate risk of wind erosion (Schoknecht, 2002). However, the linear nature of the clearing suggests that the potential for wind erosion is low.

Rainfall in the area is low (372 millimetres/year) and run-off will be low due to a high pan evaporation rate (2,200 millimetres/year) (BoM, 2020) and moderate permeability of soils present. Therefore, the effect of water erosion is likely to be minimal.

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

**Methodology**

BoM (2020)
Bureau of Rural Sciences (1992)
Schoknecht (2002)

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 may be at variance to this Principle**

The application area occurs within an ESA (Register of National Estate), which is a buffer zone surrounding Lake Cronin (GIS Database). At its closest point, the clearing is approximately 8 kilometres from the Lake Cronin Nature Reserve boundary (GIS Database).

According to the Australian Heritage Database (AHD, 2020) the Lake Cronin Nature Reserve is an area of approximately 31,000 hectares and is a potentially important contemporary refugia for many species.

The Lake Cronin Nature Reserve is one of a number of areas within the wheatbelt region that is significant for rare species due to its high diversity and level of local endemism (AHD, 2020). This nature reserve is an important refuge for two species which are listed as vulnerable at a national level, the Malleefowl (*Leipoa ocellata*) and *Eucalyptus steedmanii* (AHD, 2020).

Lake Cronin Nature Reserve is surrounded by extensive vegetation and the clearing of up to one hectare of vegetation at a distance of approximately 8 kilometres or greater from the reserve will not significantly affect ecological linkages to the reserve.

Based on the above, the proposed clearing may be at variance to this Principle. However, it is considered that the clearing to take place is low impact and of a small scale (one hectare) and subsequently will not significantly impact on the environmental values of the Lake Cronin Nature Reserve. Potential impacts to the Lake Cronin Nature Reserve may be further minimised by the implementation of a rehabilitation condition.

**Methodology**

AHD (2020)

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 372 millimetres per year (Bom, 2020). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall.

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 (2020)

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 16 March 2020 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 two native title claim/s over the area under application (DPLH, 2020). These claims have been registered with the National Native Title Tribunal on behalf of the claimant groups. 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 no registered Aboriginal Sites of Significance within the application area (DPLH, 2020). 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 (2020)

## 4. References


AHD (2020) Register of National Estate: Lake Cronin Area. Australian Heritage Database http://www.environment.gov.au. (Accessed 20 April 2020).

APM (2019) HRL003 Exploration Biological Survey Foreestania/Mt Holland, WA. Unpublished report prepared for Reed Exploration Pty Ltd by Animal Plant Mineral Pty Ltd, January 2020.

BoM (2020) Bureau of Meteorology Website – Climate Data Online, Hyden. Bureau of Meteorology. http://www.bom.gov.au/climate/data/ (Accessed 20 April 2020).

Bureau of Rural Sciences (1992). Interpretations of the Digital Atlas of Australian Soils Mapping Units (ARC/INFO format). http://www.daff.gov.au/brs/data-tools/daas-download (Accessed 20 April 2020).

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.

DBCA (2020) NatureMap, Mapping Western Australia's Biodiversity. Department of Biodiversity, Conservation and Attractions. https://naturemap.dbca.wa.gov.au/ (Accessed 20 April 2020).

DPLH (2020) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. http://maps.daa.wa.gov.au/AHIS/ (Accessed 20 April 2020).

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.

EPA (2009) Advice on Conservation Values and Review of Nature Reserve Proposals in the Lake Cronin Region. Advice of the Environmental Protection Authority to the Minister for Environment under Section 16(e) of the *Environmental Protection Act 1986*. Report Number 1329. Published Report Prepared by the Environmental Protection Authority, June 2009. Government of Western Australia, 2013.

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.

Schoknecht N. (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:

| | |
|---|---|
| **BoM** | Bureau of Meteorology, Australian Government |
| **DAA** | Department of Aboriginal Affairs, Western Australia (now DPLH) |
| **DAFWA** | Department of Agriculture and Food, Western Australia (now DPIRD) |
| **DBCA** | Department of Biodiversity, Conservation and Attractions, Western Australia |
| **DEC** | Department of Environment and Conservation, Western Australia (now DBCA and DWER) |
| **DoEE** | Department of the Environment and Energy, Australian Government |
| **DER** | Department of Environment Regulation, Western Australia (now DWER) |
| **DMIRS** | Department of Mines, Industry Regulation and Safety, Western Australia |
| **DMP** | Department of Mines and Petroleum, Western Australia (now DMIRS) |
| **DPIRD** | Department of Primary Industries and Regional Development, Western Australia |
| **DPLH** | Department of Planning, Lands and Heritage, Western Australia |
| **DRF** | Declared Rare Flora |
| **DoE** | Department of the Environment, Australian Government (now DoEE) |
| **DoW** | Department of Water, Western Australia (now DWER) |
| **DPaW** | Department of Parks and Wildlife, Western Australia (now DBCA) |
| **DSEWPaC** | Department of Sustainability, Environment, Water, Population and Communities (now DoEE) |
| **DWER** | Department of Water and Environmental Regulation, Western Australia |
| **EPA** | Environmental Protection Authority, Western Australia |
| **EP Act** | *Environmental Protection Act 1986*, Western Australia |
| **EPBC Act** | *Environment Protection and Biodiversity Conservation Act 1999* (Federal Act) |
| **GIS** | Geographical Information System |
| **ha** | Hectare (10,000 square metres) |
| **IBRA** | Interim Biogeographic Regionalisation for Australia |
| **IUCN** | International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union |
| **PEC** | Priority Ecological Community, Western Australia |
| **RIWI Act** | *Rights in Water and Irrigation Act 1914*, Western Australia |
| **TEC** | 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.