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.: 8769/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Robe River Mining Co Pty Ltd**

1.3. Property details

Property: *Iron Ore (Robe River) Agreement Act 1964*, Mineral Lease 248SA (AML 70/248)
Miscellaneous Licence 47/720
Miscellaneous Licence 47/827
Local Government Area: Shire of Ashburton
Colloquial name: Pannawonica to Mesa J Access Road and Powerline Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
120		Mechanical Removal	Road, powerline and associated infrastructure

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 5 March 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 associations:
603: Hummock grasslands, sparse shrub steppe; *Acacia bivenosa* over hard spinifex; and
609: Mosaic: Hummock grasslands, open low tree steppe; bloodwood with sparse kanji shrubs over soft spinifex / Hummock grasslands, open low tree steppe; snappy gum over *Triodia wiseana* on a lateritic crust (GIS Database).

A flora and vegetation survey was conducted over the application area by consultant botanists on behalf of Rio Tinto, on 21-23 August 2019. The following vegetation associations were recorded within the application area, grouped by landform types (Rio Tinto, 2019):

Hills and Slopes:
H1: *Eucalyptus leucophloia* and *Corymbia hamersleyana* open woodland over *Acacia bivenosa, Acacia orthocarpa* and *Acacia ancistrocarpa* sparse shrubland over *Triodia wiseana* and *Triodia epactia* hummock grassland on red-brown sandy-loam soils, on flats and slopes. This vegetation association was the most common, recorded over approximately 162 hectares (approximately 65%) of the clearing permit application area.

H3: *Eucalyptus leucophloia* open woodland over *Acacia atkinsiana* shrubland over *Triodia epactia* and *Triodia wiseana* open hummock grassland on red-brown sandy-loam soils.

Drainage Lines:
H2: *Corymbia candida* subsp. *candida* and *Corymbia hamersleyana* open woodland over *Acacia tumida* var. *pilbarensis, Acacia ancistrocarpa* and *Senna artemisioides* subsp. *helmsii* open shrubland over *Triodia epactia* or *Triodia epactia* and **Cenchrus ciliaris* grassland on red-brown sandy-loam soils.

E1: *Eucalyptus camaldulensis* subsp. *refulgens, Eucalyptus victrix* and *Melaleuca argentea* isolated clumps of trees over **Vachellia farnesiana* and *Acacia bivenosa* sparse shrubland over *Salsola australis* and *Senna notabilis* isolated low shrubs and *Eragrostis tenellula* isolated tussock grasses on red-brown sandy-loam soil. This vegetation association was the least common, representing only approximately 3.7 hectares (approximately 1.5%) of the clearing permit application area.

***** denotes weed species

Clearing Description

Pannawonica to Mesa J Access Road and Powerline Project.
Robe River Mining Co Pty Ltd proposes to clear up to 120 hectares of native vegetation within a boundary of approximately 248.5 hectares, for the purposes of a road, a powerline and associated infrastructure. The project is located approximately 1.5 kilometres south of Pannawonica, within the Shire of Ashburton.

Vegetation Condition

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

To

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment

The majority of the vegetation within the application area was considered to be in Excellent condition. The application area also contained some previously cleared areas, including existing tracks and mining related infrastructure (Rio Tinto, 2019).

The proposed clearing is for the widening of the existing access road between the Mesa J mining operations and Pannawonica; and the installation of additional powerline infrastructure along an existing powerline corridor (Rio Tinto, 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 clearing permit application area is located within the Hamersley and Chichester subregions of the Interim Biogeographic Regionalisation for Australia (IBRA) Pilbara Bioregion (GIS Database). The Hamersley subregion is described as a mountainous area of sedimentary ranges and plateaux, dissected by gorges. Mulga low woodland over bunch grasses on fine textured soils occurs in valley floors, and *Eucalyptus leucophloia* over *Triodia brizoides* occurs on the skeletal soils of the ranges (CALM, 2002). The Chichester subregion is described as undulating granite and basalt plains with significant areas of basaltic ranges. Plains support a shrub steppe characterised by *Acacia inaequilatera* over *Triodia wiseana* hummock grasslands, while *Eucalyptus leucophloia* tree steppes occur on the ranges (CALM, 2002).

A flora and vegetation survey was conducted over the application area by consultant botanists on behalf of Rio Tinto, on 21-23 August 2019. A total of 87 native flora taxa, from 51 genera and 22 families were recorded during the flora survey (Rio Tinto, 2019). No Threatened flora, or Threatened Ecological Communities (TECs) have been recorded within the application area (GIS Database), and none were found during the field survey (Rio Tinto, 2019). The flora taxa and the plant assemblages recorded during the field survey were considered to be typical of the region (Rio Tinto, 2019).

A desktop search of available databases identified fifteen Priority flora species with the potential to occur within the application area, based on known distributions (Rio Tinto, 2019). No Priority flora species were recorded within the application area during the field survey. One Priority flora species, *Triodia pisoliticola* (P3) was recorded during the survey, located outside of the clearing permit application area (Rio Tinto, 2019).

The buffer zone for one Priority Ecological Community (PEC), “Subterranean invertebrate communities of mesas in the Robe Valley region” (P1), overlapped the southern tip of the clearing permit application area (GIS Database). Rio Tinto (2019) report that this PEC occurs within the application area, however the proposed clearing of native vegetation is unlikely to have any impact on these subterranean communities.

The vegetation condition within the survey area was described as Excellent to Very Good with the majority of the survey area considered to be in Excellent condition (Rio Tinto, 2019). The four vegetation communities recorded during the survey are all common and widespread in the Pilbara region, and no unique or restricted vegetation communities were recorded within the survey area (Rio Tinto, 2019).

Five weed species were recorded during the flora and vegetation survey: *Argemone ochroleuca* (Mexican Poppy); *Cenchrus ciliaris,* (Buffel Grass); *Cenchrus setiger* (Birdwood Grass); *Malvastrum americanum* (Spiked Malvastrum); and *Vachellia farnesiana* (Mimosa Bush) (Rio Tinto, 2019). None of these species are listed as a declared plant under the *Biosecurity and Agriculture Management Act 2007* (Rio Tinto, 2019). Weeds have the potential to out-compete native flora and reduce the biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

The vegetation associations, fauna habitats and landform types present within the application area, are well represented in surrounding areas (Rio Tinto, 2019; GIS Database). The application area is unlikely to represent an area of higher biodiversity than surrounding areas, in either a local or regional context.

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

Methodology

CALM (2002)
Rio Tinto (2019)

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 following three broad fauna habitats have been recorded within the application area (Rio Tinto, 2019):

1. Breakaway: edges of mesas and ridges;
2. Drainage Features: minor ephemeral drainage lines; and
3. Stony Plains and slopes: flat to undulating plains and gentle slopes.

The "Stony Plains and Slopes" habitat type was the most common, accounting for approximately 150 hectares (approximately 60%) of the application area (Rio Tinto, 2019).

A desktop search of available databases identified twenty one fauna species (mostly birds) of conservation significance with the potential to occur within the application area, based on known distributions (Rio Tinto, 2019). Of these, the following six conservation significant fauna species were considered to have the potential to occur within the application area, based on the available habitats: *Dasyurus hallucatus,* Northern quoll (Endangered); *Liasis olivaceus* subsp. *barroni,* Pilbara olive python (Vulnerable); *Macroderma gigas,* Ghost bat (Vulnerable); *Rhinonicteris aurantia,* Pilbara leaf-nosed bat (Vulnerable); *Notoscincus butleri,* Lined soil-crevice skink (P4); and *Pseudomys chapmani,* Western Pebble-mound Mouse (P4). However, no core habitat for any of these species was found within the application area (Rio Tinto, 2019).

No conservation significant fauna species were recorded during the flora, vegetation and fauna habitat survey of the application area (Rio Tinto, 2019). Although some fauna species of conservation significance may forage through the area, the impacts from the proposed clearing on available habitats is likely to be minimal.

The clearing permit application area includes some areas of existing disturbance, and none of the fauna habitats are considered to be restricted or of conservation significance (Rio Tinto, 2019; GIS Database). The fauna habitats found within the application area are widespread in the Pilbara region and substantial areas of undisturbed fauna habitat exist outside of the application area (Rio Tinto, 2019; GIS Database). The vegetation proposed to be cleared is unlikely to represent significant habitat for fauna in either a local or regional context.

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

Methodology

Rio Tinto (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). A flora survey of the application area did not record any species of Threatened flora (Rio Tinto, 2019).

The vegetation associations within the application area are common and widespread within the region (Rio Tinto, 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

Rio Tinto (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 (Rio Tinto, 2019).

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

Methodology Rio Tinto (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 Pilbara Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 99% of the pre-European vegetation still exists in the IBRA Pilbara Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation associations 603: Hummock grasslands, sparse shrub steppe; *Acacia bivenosa* over hard spinifex; and 609: Mosaic: Hummock grasslands, open low tree steppe; bloodwood with sparse kanji shrubs over soft spinifex / Hummock grasslands, open low tree steppe; snappy gum over *Triodia wiseana* on a lateritic crust (GIS Database). Approximately 98% of the pre-European extent of each of these vegetation associations remains uncleared at both the state and 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 – Pilbara	17,808,657	17,731,764	~99	Least Concern	10.12
Beard vegetation associations – WA					
603	56,726	55,764	~98	Least Concern	no data
609	74,186	72,765	~98	Least Concern	no data
Beard vegetation associations – Pilbara Bioregion					
603	56,764	56,726	~98	Least Concern	no data
609	74,186	72,765	~98	Least Concern	no data

* 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 may be at variance to this Principle

Available databases indicate that there are no watercourses or wetlands within the area proposed to clear (GIS Database). However, Rio Tinto (2019) advise that several minor ephemeral drainage lines intersect the application area, and two of the vegetation associations recorded during the flora and vegetation survey were described as occurring in association with drainage lines. Minor drainage lines are common in the region and are dry for most of the year, only flowing briefly immediately following significant rainfall (Rio Tinto, 2019).

Based on the above, the proposed clearing may be at variance to this Principle. However, the proposed clearing is for the widening of an existing road and the installation of additional powerline infrastructure within an existing powerline corridor. Any additional impacts to vegetation growing in association with drainage lines is likely to be minimal in both a local and regional context.

Methodology Rio Tinto (2019)

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 at variance to this Principle

The application area lies within the Boolgeeda, McKay, Newman, Robe and Rocklea land systems (GIS Database). These land systems have been mapped and described in technical bulletins produced by the former Department of Agriculture (now the Department of Primary Industries and Regional Development).

The Boolgeeda land system is described as stony lower slopes and plains below hill systems, supporting hard and soft spinifex grasslands and mulga shrublands. This land system is not generally susceptible to erosion (Van Vreeswyk et al., 2004).

The McKay land system is described as hills, ridges, plateaux remnants and breakaways of meta sedimentary and sedimentary rocks supporting hard spinifex grasslands. This land system is not generally susceptible to erosion (Van Vreeswyk et al., 2004).

The Newman land system consists of rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands. This land system is not susceptible to erosion (Van Vreeswyk et al., 2004).

The Robe land system consists of low limonite mesas and buttes supporting soft spinifex (and occasionally hard spinifex) grasslands. This land system is not generally susceptible to erosion (Van Vreeswyk et al., 2004).

The Rocklea land system is described as basalt hills, plateaux, lower slopes and minor stony plains supporting hard spinifex (and occasionally soft spinifex) grasslands. This land system is not susceptible to erosion (Van Vreeswyk et al., 2004).

The proposed clearing of up to 120 hectares of native vegetation for the purposes of a road and powerline infrastructure is unlikely to cause appreciable land degradation.

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

Methodology Van Vreeswyk et al. (2004)

GIS Database:
- Landsystem Rangelands

(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

There are no conservation areas in the vicinity of the application area. The nearest DBCA (formerly DPaW) managed lands are the Cane River Conservation Park which is located approximately 52 kilometres southwest of the application area, and the Millstream Chichester National Park which is located approximately 72 kilometres east/northeast of the application area at its nearest point (GIS Database). The proposed clearing is unlikely to impact on 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 is not likely to be at variance to this Principle

There are no Public Drinking Water Source Areas (PDWSA) within the application area (GIS Database). The nearest PDWSA is the Pannawonica Water Reserve which is approximately 300 metres to the east of the application area at its nearest point. The Pannawonica Water Reserve covers an area of approximately 6000 hectares, and the proposed clearing of up to 120 hectares is unlikely to impact the Water Reserve. The proposed clearing for a road and powerline infrastructure is unlikely to cause deterioration in the quality of underground water.

There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). Minor drainage lines are common in the region and 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.

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

Methodology Rio Tinto (2019)

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-tropical, with a low average rainfall of approximately 300 millimetres per year (CALM, 2002). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (Rio Tinto, 2019).

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 CALM (2002)
Rio Tinto (2019)

GIS Database:
- Hydrography, lakes
- Hydrography, linear

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

Comments

The clearing permit application was advertised on 20 January 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 is one native title claim (WC1999/012) over the area under application (DPLH, 2020). This claim has been determined by the Federal Court on behalf of the claimant group. 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, 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

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

DPLH (2020) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. http://maps.daa.wa.gov.au/AHIS/ (Accessed 3 March 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.

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.

Rio Tinto (2019) Flora, Vegetation and Fauna Habitat Assessment at Mesa J Access Road and Powerline Corridor. Report prepared by Rio Tinto, for Robe River Pty Ltd, 15 November 2019.

Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A. and Hennig, P. (2004) An inventory and condition survey of the Pilbara Region, Western Australia. Technical Bulletin No. 92. Department of Agriculture, South Perth, Western Australia.

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.