



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8525/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Karara Mining Ltd

1.3. Property details

Property: Mining Lease 59/650
Local Government Area: Shire of Perenjori
Colloquial name: Mungada Ridge Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
11.74		Mechanical Removal	Rehabilitation

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 3 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:
358: Shrublands; bowgada & *Acacia quadrimarginea* on stony ridges; and
420: Shrublands; bowgada & jam scrub (GIS Database).

Regional flora and vegetation surveys undertaken by Woodman Environmental Consultants (Woodman) (2012) between 2009 and 2012 identified three floristic community types within the application area:

1 - Tall shrubland to tall open shrubland of mixed *Acacia* species, including *Acacia aneura* (complex), *A. assimilis* subsp. *assimilis*, *A. ramulosa* var. *ramulosa* and occasional *Allocasuarina acutivalvis* subsp. *prinsepiana* over mid sparse shrubland of mixed species including *Eremophila clarkei*, *E. latrobei* subsp. *latrobei*, *Mirbelia* sp. *bursarioides*, *Philotheca brucei* subsp. *brucei* and *P. sericea* over low isolated clumps of shrubs of *Xanthosia kochii* on red brown silty clay loams on lowerslopes to crests with ironstone (BIF) or granite outcropping;

4 - Tall shrubland of mixed species including *Allocasuarina acutivalvis* subsp. *prinsepiana*, *Acacia assimilis* subsp. *assimilis* with low isolated clumps of trees of *Eucalyptus petraea* over mid sparse shrubland of mixed species including *Calycopeplus paucifolius* over low isolated clumps of heath shrubs of *Xanthosia bungei* on red brown clay loam on flats to Breakaways; and

10 - Tall closed shrubland to tall open shrubland of mixed *Acacia* species dominated by *Acacia assimilis* subsp. *assimilis* over mid open shrubland to mid -sparse shrubland of mixed species including *Aluta aspera* subsp. *hesperia*, *Eremophila latrobei* subsp. *latrobei* and *Philotheca sericea* on red or redbrown silty clay loam or clay loam with ironstone gravel on flats to crests (primarily midslopes).

Clearing Description

Mungada Ridge Project.
Karara Mining Limited proposes to clear up to 11.74 hectares of native vegetation within a boundary of approximately 11.74 hectares, for the purpose of rehabilitation. The project is located approximately 14 kilometres north of Rothsay, within the Shire of Perenjori.

Vegetation Condition

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

To:

Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).

Comment

The vegetation condition was derived from a vegetation survey conducted by Borger (2018).

The proponent is undertaking rehabilitation activities so the tenement can be relinquished and incorporated into a conservation reserve as an offset for the Greater Karara Iron Ore Project. Rehabilitation activities will include re-contouring steep exploration cut and fill pads and tracks.

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 at variance to this Principle**

The clearing permit application area is located within the Talling subregion of the Interim Biogeographic Regionalisation for Australia Yalgoo Bioregion (GIS Database). The Yalgoo bioregion is characterised by low woodlands to open woodlands of Eucalyptus, Acacia and Callitris on red sandy plains of the Western Yilgarn Craton and southern Carnarvon Basin. Mulga, Callitris, *Eucalyptus salubris*, and Bowgada open woodlands and scrubs occur on earth to sandy-earth plains in the western Yilgarn Craton (CALM, 2002).

Numerous vegetation surveys have been undertaken over the application area (Karara, 2019). Woodman Environmental Consultants prepared a baseline summary report, then the area was re-assessed from a regional perspective in 2012 (Karara, 2019; Woodman, 2012). Jenny Borger (2018) undertook a targeted flora survey over the application area for *Acacia woodmaniorum* and other Priority flora species to determine the number of plants to be disturbed during rehabilitation of the area (Karara, 2019). There was one Threatened flora species and six Priority flora species identified during the survey, totalling 4,900 individuals;

Acacia woodmaniorum (Threatened) – 909 individuals;
Lepidosperma sp. Blue Hills (A. Markey & S.Dillon 3468) (Priority 1) – 105 individuals;
Drummondita fulva (Priority 3) – 33 individuals;
Micromyrtus trudgenii (Priority 3) – 210 individuals;
Persoonia pentasticha (Priority 3) – 1 individual;
Pollanthion collinum (Priority 3) – 74 individuals; and
Rhodanthe collina (Priority 3) – 3,568 individuals (Borger, 2018).

DBCA has approved a 'Threatened Flora Authorisation' to impact up to 909 individuals of *Acacia woodmaniorum* (DBCA, 2019). The proponent has also referred the project under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as *A. woodmaniorum* has recently been listed as 'Endangered' under the EPBC Act (DoEE, 2019).

No Threatened Ecological Communities were identified within the application area (Karara, 2019; GIS Database). The application area sits within the Midwest 'Blue Hills Vegetation complexes' Priority Ecological Community (PEC), which is considered to be conservation significant as it occurs on a Banded Iron Formation (Karara, 2019). The total area mapped of this PEC within the region is 2,194.5 hectares, in which the proposed clearing of 11.74 hectares will impact approximately 0.54 per cent of this PEC.

Four faunal habitat types were identified within the application area (Karara, 2019; Bamford, 2007). The application area contains suitable habitat for the Malleefowl (Karara, 2019). These areas are in a degraded condition, and rehabilitation activities will be beneficial for the local and regional fauna.

DBCA (2019) advise that while it is recognised that the proposed rehabilitation activities will have some impact on conservation significant values of Threatened and Priority Flora, the PEC and Malleefowl habitat, these impacts are unlikely to be significant in the context of future conservation of these values, particularly over the medium to long term. Rehabilitation will enable the re-profiling of areas previously disturbed, assist in the reinstatement of the original landscape contours, facilitate the restoration of flora and vegetation values and improve conservation outcomes in the general area in the long term (DBCA, 2019).

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

Methodology Bamford (2007)
Borger (2018)
CALM (2002)
DBCA (2019)
DoEE (2019)
Karara (2019)
Woodman (2012)

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

(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 may be at variance to this Principle**

The following four faunal habitats have been recorded within the application area. These faunal habitats have

been identified as locally significant (Bamford, 2007):

- Banded Iron Formation (BIF) ridges;
- Mid to lower slopes of the BIF ridges;
- Temporary pools of fresh water in low-lying areas; and
- Well-developed eucalypt woodlands.

The rocky crests of the BIF ridges provide a refuge and resource for fauna from surrounding habitats, as well as habitat for a number of flora and fauna species (e.g. Gilled Slender Blue-tongue Lizard and Woolley's pseudantechinus) restricted to these landforms (Bamford, 2007; Karara, 2019).

The mid to lower slopes of the ironstone ridges host thickets and dense shrublands that support high levels of productivity. These are often areas of high biodiversity (Karara, 2019).

Three areas of temporary water accumulation have been identified within the general project area; these are two claypan areas and a gilgai formation. Temporary pools of fresh water in low-lying areas may support frog and invertebrate species reliant on this type of habitat (Karara, 2019).

Well-developed Eucalypt woodlands may provide significant habitat for several species of cockatoo and skink (Karara, 2019).

Bamford (2007) conducted an assessment of the terrestrial vertebrate and invertebrate fauna values of all Karara Mining Limited tenements in 2006. Of the activities undertaken only one Malleefowl 200 metre wide transect, one pitfall trap line, the Malleefowl search area and a part of the cage trap line intersected the application area (Bamford, 2007).

The following conservation significant fauna have the potential to utilise the application area based on fauna habitat requirements:

- Shield-backed Trapdoor Spider (*Idiosoma nigrum*) (EN);
- Malleefowl (*Leipoa ocellata*) (VU);
- Western Spiny-tailed Skink (*Egernia stokesii badia*) (VU); and
- Gilled Slender Blue-tongue Lizard (*Cyclodomorphus branchialis*) (VU) (Bamford, 2007).

Bamford (2007) identified the presence of Gilled Slender Blue-tongue Lizard and Malleefowl within the application area. Two specimens of the Gilled Slender Blue-tongue lizard was recorded on Mungada Ridge in early 2004 and another nearby at Karara Ridge. No other individuals were recorded despite extensive searching in suitable habitat on both ridges and in low-lying areas (Bamford, 2007). No Malleefowl mounds were identified within application area, however habitat within application area is prospective for Malleefowl (Bamford 2007; Karara, 2019). The application area representing suitable habitat for Malleefowl has been identified to be up to 9.72 hectares, which is approximately 0.11 per cent total regional impact (Karara, 2019). A fauna management plan which includes a Malleefowl management and monitoring procedure has been developed and endorsed by DBCA. Potential impacts to Threatened Fauna as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

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

Methodology Bamford (2007)
Karara (2019)

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

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

Borger (2018) conducted a targeted Threatened flora survey for *Acacia woodmaniorum* and other priority flora species and recorded 909 individuals of *A. woodmaniorum* within the application area.

This species is endemic to the Midwest region and has recently been listed as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (DoEE, 2019).

A 'Threatened Flora Authorisation' has been issued under the *Biodiversity Conservation Act 2016* to the applicant by DBCA to disturb up to 909 individuals of *A. woodmaniorum* within the application area, for the purpose of rehabilitation. It has been agreed with DMIRS and DBCA that the clearing will be required in order to complete the rehabilitation works for the long-term viability of Threatened and Priority flora species (Karara, 2019).

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

Methodology Borger (2018)
DoEE (2019)
Karara (2019)

(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 (Karara, 2019).

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

Methodology Karara (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 Yalgoo Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 98% of the pre-European vegetation still exists in the IBRA Yalgoo Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation associations 358 and 420 (GIS Database). Over 96% 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 – Yalgoo	2,690,869	2,646,341	~98.35	Least Concern	28.27
Beard vegetation associations – WA					
358	59,719	59,577	~99.76	Least Concern	35.85
420	859,632	830,216	~96.58	Least Concern	14.11
Beard vegetation associations – Yalgoo Bioregion					
358	55,530	55,448	~99.85	Least Concern	31.8
420	621,396	620,266	~99.82	Least Concern	16.38

* 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

The application area lies within the Tallering and Pindar 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 Pindar land system is described as Loamy plains surrounded by sandplain supporting York gum woodlands and acacia shrublands. This land system is not generally susceptible to erosion (Payne, et al., 1998).

The Tallering land system consists of Prominent ridges and hills of banded ironstone, dolerite and sedimentary rocks supporting bowgada and other acacia shrublands. This land system has a low susceptibility to erosion (Payne, et al., 1998).

The proposed clearing of up to 11.4 hectares of native vegetation within a boundary of approximately 11.4 hectares, for the purpose of rehabilitation is unlikely to cause appreciable land degradation.

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

Methodology Payne et al. (1998)

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 at variance to this Principle

The application area sits within the former Karara leasehold that is now managed by DBCA (GIS Database). Given the proposed activities are for the purpose of rehabilitation, 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 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). Light rainfall events over extended periods may produce small volumes of runoff that will generally have a low velocity with a minor sediment load (Karara, 2019). Heavier, more intense rainfall events usually produce higher velocity flows that result in the transport of sediment. Water quality after rainfall events can be expected to be turbid (Karara, 2019). The proposed clearing is unlikely to result in significant changes to surface water flows and 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 Karara (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 arid to semi-arid, with an average rainfall of approximately 248 millimetres per year (CALM, 2002). Given that the average annual evaporation rate exceeds the annual average rainfall, any surface water resulting from rainfall events is likely to be relatively short lived (BoM, 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 BoM (2019)
CALM (2002)

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 1 July 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 is one native title claim over the area under application (DPLH, 2019). This claim has been registered with the National Native Title Tribunal 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 no 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.

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

Methodology DPLH (2019)

4. References

- Bamford (2007) Fauna Values of the Karara Magnetite and Mungada Ridge Hematite Project Area. Prepared for Woodman Environmental Consulting Pty Ltd, by MJ & AR Bamford Consulting Ecologists, September 2007.
- BoM (2019) Bureau of Meteorology Website – Climate Data Online, Karara WA. Bureau of Meteorology.
<http://www.bom.gov.au/climate/data/> (Accessed 1 August 2019).
- Borger, J (2018) A survey of rehabilitation and outstanding disturbance areas at Mungada Ridge. Prepared for Karara Mining Limited, by JB Botanical Consulting, September 2018.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DBCA (2019) Advice received in relation to Clearing Permit Application CPS 8525/1. Species and Communities Branch & Environment Management Branch, Department of Biodiversity, Conservation and Attractions, Western Australia, August 2019.
- DPLH (2019) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage.
<http://maps.daa.wa.gov.au/AHIS/> (Accessed 30 July 2019).
- DoEE (2019) Acacia woodmaniorum in Species Profile and Threats Database, Department of the Environment, Canberra.
<http://www.environment.gov.au/sprat> (Accessed 13 August 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>
- Karara (2019) Native Vegetation Clearing Permit Application, Mungada Ridge Rehabilitation Works – M59/650. Karara Mining Limited, June 2019.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Payne, A.L., Van Vreeswyk, A.M.E., Leighton, K.A. and Hennig, P. (1998) An inventory and condition survey of the Sandstone – Yalgoo – Paynes Find area, Western Australia. Technical Bulletin No. 90. Department of Agriculture, South Perth, Western Australia.
- Woodman, G (2012) Flora and vegetation of the Karara-Mungada project survey area. Prepared for Gindalbie Metals Ltd, by Woodman Environmental Consulting Pty Ltd, 2012.

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)
DEE	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 DEE)
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 DEE)
DWER	Department of Water and Environmental Regulation, Western Australia
EPA	Environmental Protection Authority, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (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	<i>Rights in Water and Irrigation Act 1914</i> , 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.