



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 9302/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Bardoc Gold Limited**

1.3. Property details

Property: Miscellaneous Licences 24/148, 24/202, 24/203
Local Government Area: City of Kalgoorlie-Boulder
Colloquial name: Scotia Borefield Recommissioning Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
43.5		Mechanical Removal	Recommissioning a borefield

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 23 September 2021

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:
10: Medium woodland; red mallee group;
521: Medium woodland; salmon gum & red mallee; and
2903: Medium woodland; Salmon gum, goldfield balckbutt, gimlet & *Allocasuarina cristata* (GIS Database).

Botanica Consulting (2020) conducted a detailed flora and vegetation survey over a 2,670 hectare study area that included the application area and a 500 metre radius between 1 and 9 September 2020. The following vegetation associations were recorded within the application area (Botanica, 2020):

Landform	Major Vegetation Group	Floristic Group	Vegetation Code
Clay-Loam Plain	Casuarina Forest and Woodlands (MVG 8)	Low woodland of <i>Casuarina pauper</i> over mid shrubland of <i>Acacia</i> spp. and low mixed shrubland on clay-loam plain	CLP-CFW1
Clay-Loam Plain	Eucalypt Woodlands (MVG 5)	Low woodland of <i>Eucalyptus oleosa</i> / <i>E. salmonophloia</i> over mid shrubland of <i>Acacia</i> spp. and low mixed shrubland on clay-loam plain	CLP-EW1
Clay-Loam Plain	Eucalypt Woodlands (MVG 5)	Low woodland of <i>Eucalyptus moderata</i> / <i>E. salmonophloia</i> over mid shrubland of <i>Acacia</i> / <i>Eremophila</i> spp. and low chenopod shrubland on clay loam plain	CLP-EW2
Clay-Loam Plain	Eucalypt Woodlands (MVG 5)	Low woodland of <i>Eucalyptus salubris</i> over mid shrubland of <i>Eremophila</i> / <i>Senna</i> spp. and low chenopod shrubland on clay-loam plain	CLP-EW3
Open Depression	Casuarina Forest and Woodlands (MVG 8)	Low woodland of <i>Casuarina pauper</i> over mid shrubland of <i>Acacia</i> spp. and low chenopod shrubland in open depression	OD-CFW1
Rocky Hillslope	Acacia Forest and Woodlands (MVG 6)	Low woodland of <i>Acacia acuminata</i> / <i>A. caesaneura</i> over mid shrubland of <i>Acacia</i> / <i>Melaleuca</i> spp. and low mixed shrubland on rocky hillslope	RS-AFW1
Rocky Hillslope	Casuarina Forest and Woodlands (MVG 8)	Low open woodland of <i>Casuarina pauper</i> over mid shrubland of <i>Acacia</i> / <i>Senna</i> spp. and low open shrubland of <i>Ptilotus obovatus</i> on	RS-CFW1

		rocky hillslope	
Rocky Hillslope	Eucalypt Woodlands (MVG 5)	Low open woodland of <i>Eucalyptus clelandiorum</i> / <i>E. griffithsii</i> over tall open shrubland of <i>Acacia</i> spp. and low mixed shrubland on rocky hillslope	RS-EW1
Sand-Loam Plain	Mallee Woodland and Shrublands (MVG 13)	Mallee woodland of <i>Eucalyptus concinna</i> / <i>E. oleosa</i> over mid to low shrubland of <i>Acacia</i> / <i>Senna</i> spp. on sand-loam plain	SLPMWS1

Clearing Description Scotia Borefield Recommissioning Project
Bardoc Gold Limited proposes to clear up to 43.5 hectares of native vegetation within a boundary of approximately 44.662 hectares, for the purpose of recommissioning the Scotia Borefield. The project is located approximately 47 kilometres north of Kalgoorlie-Boulder, within the City of Kalgoorlie-Boulder.

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

To:

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

Comment The vegetation condition was derived from a vegetation survey conducted by Botanica (2020).

The proposed clearing is for refurbishing the existing Scotia borefield which has been on care and maintenance since the late 1990's. The borefield includes an existing pipeline, scour pits, transfer tanks and an access road. The borefield refurbishment will consist of installing new pumping infrastructure, pipeline, power corridor and a transfer tank (Bardoc, 2021).

A powerline and pastoral fence line runs parallel with much of the borefield pipeline route and cleared vegetation has been maintained for those areas. There are also recent disturbances within the clearing permit application area from exploration water bores and hydrogeology studies conducted in accordance with approved Programmes of Work under the *Mining Act 1978* (Bardoc, 2021).

3. Assessment of application against Clearing Principles

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

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

The clearing permit application area is located within the Eastern Murchison subregion of the Interim Biogeographic Regionalisation for Australia Murchison Bioregion (GIS Database). The Eastern Murchison subregion is characterised by its internal drainage, and extensive areas of elevated red desert sandplains with minimal dune development. Broad plains of red-brown soils and breakaway complexes as well as red sandplains occur, while salt lake systems are associated with the occluded paleodrainage system. Vegetation is dominated by Mulga Woodlands often rich in ephemerals; hummock grasslands, saltbush shrublands and *Tecticornia* shrublands (CALM, 2002).

A literature review and desktop database searches undertaken by Botanica (2020) identified three Threatened flora and 24 Priority flora species as occurring within a 50 kilometre radius of the Scotia Borefield study area. Botanica's detailed field survey recorded nine floristic groups, four major vegetation types and a total of 132 flora taxa within the study area (Botanica, 2020). This included no Threatened Flora, Priority flora, Threatened Ecological Communities or Priority Ecological Communities (Botanica, 2020). It is noted that the field survey was not undertaken within the EPA's recommended primary survey time period for the Eremaean Province (6-8 weeks following winter rainfall) but was conducted during the EPA recommended timing for the South-West Interzone (i.e. September to November). The survey timing also coincided with the optimal flowering period for Eucalypt Woodland vegetation (Botanica, 2020). Limited annual species were present during the survey, and many of the plants were not in flower; however, species identification from previous surveys conducted supplemented the current assessment. It is estimated that 90% of the flora within the survey area were able to be fully identified (Botanica, 2020).

NatureMap records indicate a total of 225 vertebrate fauna taxa have been recorded within a 40 kilometre radius of the study area, including four species of amphibians, 122 bird species, 26 mammal species and 73 reptile species (Botanica, 2020). Fauna diversity in the application area is unlikely to be higher than surrounding areas, given the common and widespread vegetation types, fauna habitats and landform types present. It is also noted that the application area contains existing disturbances (borefield, pastoral fence line and power line) that may have impacted upon the local fauna diversity.

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

Methodology Botanica (2020)
CALM (2002)

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.

Comments Proposal may be at variance to this Principle

Botanica (2020) undertook a basic fauna survey of the Scotia Borefield study area. The following four fauna habitats have been recorded within the application area (Botanica, 2020):

1. Clay-Loam Plain - Casuarina Woodland/Eucalypt Woodland;
2. Open Depression - Casuarina Woodland;
3. Rocky Hillslope - Acacia Woodland/Casuarina Woodland/Eucalypt Woodland; and
4. Sand-Loam Plain - Mallee Woodland.

The survey area (including the application area) comprises broad fauna habitats that are typical of the wider region. No unique fauna habitats (caves, rocky outcrops or pools) occur within the survey area (Botanica, 2020).

Botanica (2020) identified one Threatened fauna species listed under the BC Act and EPBC Act within the survey area; Malleefowl (*Leipoa ocellata*). Three Malleefowl mounds were recorded within the survey area, with one mound identified as inactive and two mounds identified as active/ recently active. Motion camera footage shows Malleefowl actively working one of the mounds, suggesting a breeding population is present in the survey area (Botanica, 2020). None of the mounds were recorded within the application area, and were located approximately 260 – 430 metres east of the application area (Botanica, 2020). The active Malleefowl mounds won't be directly impacted by this clearing permit application.

The critically endangered Arid Bronze Azure Butterfly (*Ogyris subterrestris petrina*) listed under the BC Act and EPBC Act was recently recorded approximately 3 kilometres north of the northern extremity of the application area, within sand-loam plain habitat with a similar vegetation structure to the locally extinct Lake Douglas record (i.e. *E. concinna* mallee woodland). This species was observed within the ex. Goongarrie Station UCL (LR3068/801) which is managed by DBCA (Botanica, 2020). Based on Botanica's (2020) vegetation mapping, four small patches totalling six hectares of suitable habitat for the Arid Bronze Azure Butterfly are present in the application area (SLPMWS1 - Mallee woodland of *Eucalyptus concinna*/ *E. oleosa* over mid to low shrubland of *Acacia*/ *Senna* spp. on sand-loam plain).

Based on the recent butterfly record and the presence of suitable habitat within the application area, Botanica (2021) undertook a targeted survey for the Arid Bronze Azure Butterfly between 15 and 19 July 2021 in Bardoc's Aphrodite Project area (this survey included sampling effort in the Scotia Borefield study area). A total of 200 trees were searched for the Butterfly's host ant species (*Camponotus* sp. nr. *Terebrans*). No evidence of the host ant species was recorded in the application area during this survey (Botanica, 2021). Two ant colonies were recorded approximately five kilometres north-east of the application area, and follow up targeted surveys for the Arid Bronze Azure Butterfly are being undertaken in this area in Spring 2021 to support a separate clearing permit application by Bardoc Gold Limited (CPS 9294/1). It is considered unlikely that this Scotia Borefield clearing permit application area constitutes significant habitat for the Arid Bronze Azure Butterfly, given the host ant species was not detected during a recent targeted survey, the small amount of suitable habitat present and the existing borefield disturbance.

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

Methodology Botanica (2020)
Botanica (2021)

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, threatened 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 detailed flora and vegetation survey of the application area did not record any species of Threatened flora (Botanica, 2020).

The vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened flora.

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

Methodology Botanica (2020)

GIS Database:

- Pre-European Vegetation
- Threatened and Priority Flora

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

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

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

A flora and vegetation survey of the application area did not identify any TECs (Botanica, 2020).

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

Methodology Botanica (2020)

GIS Database:

- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers

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

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

The application area falls within the Murchison Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 99.7% of the pre-European vegetation still exists in the IBRA Murchison Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation associations 10: Medium woodland; red mallee group; 521: Medium woodland; salmon gum & red mallee and 2903: Medium woodland; Salmon gum, goldfield blackbutt, gimlet & *Allocasuarina cristata* (GIS Database). Approximately 96 - 100% 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 – Murchison	28,120,586	28,044,823	~99.7	Least Concern	~7.7
Beard vegetation associations – WA					
10	145,676	144,162	~98.9	Least Concern	~3.0
521	122,059	122,059	~100	Least Concern	~5.8
2903	28,308	27,330	~96.5	Least Concern	-
Beard vegetation associations – Murchison Bioregion					
10	65,387	64,757	~99	Least Concern	~4.6
521	11,711	11,711	~100	Least Concern	~53.6
2903	28,295	27,317	~96.5	Least Concern	-

* Government of Western Australia (2019)

** Department of Natural Resources and Environment (2002)

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

Methodology Department of Natural Resources and Environment (2002)
Government of Western Australia (2019)

GIS Database:
- IBRA Australia
- Pre-European Vegetation

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

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

There are no permanent watercourses or wetlands within the area proposed to clear (Botanica, 2020; GIS Database). Multiple ephemeral drainage lines pass through the application area (GIS Database). Drainage lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall (Botanica, 2020). No distinctive riparian vegetation was mapped in the application area by Botanica (2020).

Given that the Scotia borefield is already in existence, and the narrow, linear and low impact nature of the proposed clearing, impacts to vegetation growing in association with watercourses are expected to be minimal.

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

Methodology Botanica (2020)

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 Bunyip, Campsite, Doney, Gundockerta, Illaara and Moriarty 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 Bunyip land system is described as gilgaied tracts draining greenstone hills, supporting mixed halophytic shrublands occasionally with a black oak overstorey. The Bunyip land system is slightly susceptible to soil erosion, particularly if perennial shrub cover is substantially reduced or the soil surface is disturbed. Impedance to natural drainage features can initiate accelerated soil erosion and cause loss of vigour in vegetation from water starvation (Pringle et al., 1994).

The Campsite land system consists of alluvial plains supporting eucalypt woodlands with halophytic understoreys and acacia shrublands. Alluvial plains are slightly susceptible to soil erosion if perennial shrub cover is substantially reduced, as are stony plains if protective stone mantles are disturbed or removed. Impedance to natural drainage characteristics can initiate accelerated soil erosion and cause loss of vigour in vegetation downslope due to water starvation (Pringle et al., 1994).

The Doney land system is calcareous plains with eucalypt woodlands adjacent to salt lake systems. This land system is not generally susceptible to erosion (Pringle et al., 1994).

The Gundockerta land system is described as extensive, gently undulating, calcareous, stony plains, supporting bluebush shrublands. Where not protected by a stony mantle, saline plains and adjacent lower alluvial tracts are susceptible to water erosion, particularly in areas where perennial shrub cover is substantially reduced and/ or the soil surface is disturbed (Pringle et al., 1994).

The Illaara land system is described as plains with ironstone gravel or calcrete mantles, supporting eucalypt woodlands and mulga-casuarina shrublands. This land system is not generally susceptible to erosion (Pringle et al., 1994).

The Moriarty land system is described as low greenstone rises and stony plains, supporting chenopod shrublands with patchy eucalypt overstoreys. Slopes of low rises without protective stone mantles, alluvial plains and narrow drainage tracts are moderately susceptible to water erosion, particularly if perennial shrub cover is substantially reduced or the soil surface is disturbed (Pringle et al., 1994).

The proposed clearing of up to 43.5 hectares of native vegetation for the purpose of recommissioning an existing borefield is unlikely to cause appreciable land degradation. The proposed clearing permit is to remove remnant vegetation that has overgrown in a previously disturbed area (Bardoc, 2021). The following measures will also minimise the potential for land degradation (Bardoc, 2021):

- Clearing will be undertaken progressively and incrementally as required;
- Cleared vegetation will be stockpiled as growth medium for future rehabilitation; and
- Topsoil will be stripped to a depth of approximately 150 millimetres and be stockpiled for use in rehabilitation.

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

Methodology Bardoc (2021)
Pringle et al. (1994)

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

The proposed clearing area is not located within a conservation area (GIS Database). The nearest DBCA (formerly DPaW) managed land is part of the former Credo Pastoral Lease (LR3067/597) which is located approximately 340 metres north 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 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. Most rainfall is lost by evaporation or surface runoff (Botanica, 2020). 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 Botanica (2020)

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 a low average rainfall of approximately 266.1 millimetres per year and an evaporation rate of 2,400 millimetres (Botanica, 2020). The region is not generally prone to flooding and does not contain perennial water sources (Botanica, 2020).

The proposed clearing to refurbish an existing borefield 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 Botanica (2020)

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

Comments

The clearing permit application was advertised on 14 June 2021 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 claims (WC2017001 and WC2017/007) over the area under application (DPLH, 2021). 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, 2021). 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 (2021)

4. References

- Bardoc (2021) Clearing Permit Application for Bardoc Gold Project. Supporting information for CPS 9302/1, 25 May 2021, North Fremantle, Western Australia.
- Botanica (2020) Detailed Flora/Vegetation Survey & Basic Fauna Survey: Scotia Borefield, Prepared for Bardoc Gold Limited, by Botanica Consulting, May 2021, Version 1, Boulder, Western Australia.
- Botanica (2021) Survey for the Arid Bronze Azure Butterfly (*Ogyris subterrestris petrina*) Aphrodite Project. Prepared for Bardoc Gold Limited, by Botanica Consulting, July 2021, Version 1, Boulder, Western Australia.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DPLH (2021) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage.
<https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 16 September 2021).
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth.
<https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Pringle, H.J.R., Van Vreeswyk, A.M.E and Gilligan, S.A (1994). An inventory and condition survey of rangelands in the north-eastern Goldfields, Western Australia. Department of Agriculture, South Perth.

5. Glossary

Acronyms:

BC Act	<i>Biodiversity Conservation Act 2016</i> , Western Australia
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)
DAWE	Department of Agriculture, Water and the Environment, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
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)
DoEE	Department of the Environment and Energy (now DAWE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPA	Environmental Protection Authority, 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.