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.: 9118/1
Permit type: Purpose Permit

1.2. Proponent details

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

1.3. Property details

Property: Mining Leases 24/11, 24/43, 24/83, 24/99, 24/121, 24/122, 24/135, 24/326, 24/348, 24/469, 24/512, 24/854, 24/869, 24/870, 24/871, 24/886, 24/887, 24/888, 24/951, 24/952
Local Government Area: City of Kalgoorlie-Boulder
Colloquial name: Kalgoorlie North Gold Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
420		Mechanical Removal	Mineral Production and Associated Activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 4 February 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 association: 2903: Medium woodland; Salmon gum, goldfield blackbutt, gimlet & *Allocasuarina cristata* (GIS Database).

A flora and vegetation survey targeting a number of Bardoc Gold mining tenements in the region was conducted by Botanica Consulting Pty Ltd (Botanica) in September 2020. This survey covered a majority of the application area, however part of the southern portion of the application area was not covered. A review of aerial imagery and previous studies of the area (Botanica, 2020) indicates that this area is consistent with some of the adjoining surveyed areas, and it is composed of vegetation associations that are locally well represented. The following vegetation associations were recorded within the surveyed area (Botanica, 2020):

CLP-CFW1: Low woodland of *Casuarina pauper* over mid shrubland of *Acacia* spp. and low mixed shrubland on clay-loam plain;

CLP-EW1: Low woodland of *Eucalyptus oleosa*/ *E. salmonophloia* over mid shrubland of Acacia spp. and low mixed shrubland on clay-loam plain;

CLP-EW2: Low woodland of *Eucalyptus moderata*/ *E. salmonophloia* over mid shrubland of *Acacia*/ *Eremophila* spp. and low chenopod shrubland on clay-loam plain;

CLP-EW3: Low woodland of *Eucalyptus salubris* over mid shrubland of *Eremophila/ Senna* spp. and low chenopod shrubland on clay-loam plain;

RS-AFW1: Low woodland of *Acacia acuminata*/ *A. caesaneura* over mid shrubland of *Acacia / Melaleuca* spp. and low mixed shrubland on rocky hillslope;

RS-CFW1: Low open woodland of *Casuarina pauper* over mid shrubland of *Acacia*/ *Senna* spp. and low open shrubland of *Ptilotus obovatus* on rocky hillslope; and

RS-EW1: Low open woodland of *Eucalyptus clelandiorum/ E. griffithsii* over tall open shrubland of *Acacia* spp. and low mixed shrubland on rocky hillslope.

Clearing Description

Kalgoorlie North Gold Project
Bardoc Gold Limited proposes to clear up to 420 hectares of native vegetation within a boundary of approximately 675 hectares, for the purpose of mineral production and associated activities. 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

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 Botanica (2020).

The proposed clearing is to allow for the development of the Kalgoorlie North Gold Project (KNGP), allowing for an expansion to the open pit, existing Tailings Storage Facility and Waste Rock Landform. Clearing will also be required for the construction of associated site infrastructure.

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 (IBRA) 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. The climate is arid, with a mean annual rainfall of 200 millimetres, mainly occurring during winter (CALM, 2002).

A flora and vegetation survey targeting a number of Bardoc Gold mining tenements in the region was conducted by Botanica Consulting Pty Ltd (Botanica) in September 2020, which covered a majority of the application area (Botanica, 2020). Seven vegetation associations were identified within the application area, comprising two different landform types and three major vegetation groups (Botanica, 2020). The vegetation found in the application area is considered moderately diverse and regionally well represented (Botanica, 2020). Disturbance from mining, exploration and grazing activities is evident across much of the application area, however the majority of vegetation was considered to be in 'Good' to 'Very Good' condition, while vegetation within the existing mining operational footprint is considered to be 'Cleared' (Botanica, 2020).

A total of 130 flora species were recorded from within the application area (Botanica, 2020). In addition, three range extension taxa had recently been identified by another study within the survey area: *Cassytha filiformis*, *Lawrenia berthae* and *Sida arenicola* (Botanica, 2020). No Threatened or Priority flora species were identified during the field assessment of the application area (Botanica, 2020).

The desktop assessment identified three Threatened and 24 Priority flora species previously recorded within 50 kilometres of the application area, none of which had been recorded within the boundaries of the application area (Botanica, 2020; DAWE, 2020; DBCA, 2007-). Of these species, the majority were considered unlikely to occur based on habitat preferences, however four Priority species were considered to possibly occur due to the presence of suitable habitat, whilst three other Priority species have unspecified habitat preferences and could potentially occur in the application area (Botanica, 2020). Of these, only *Rhodanthe uniflora* (P1) is regionally restricted (Western Australian Herbarium, 1998-), however the taxa was not recorded during the detailed flora survey, which was conducted during the flowering period for that species. None of the other six potential Priority species were recorded as part of the field surveys, and none are regionally restricted (Western Australian Herbarium, 1998-).

No Threatened or Priority Ecological Communities were identified as potentially occurring within the application area and none were recorded during any of the field assessments (Botanica, 2020; GIS Database). Three introduced flora species have previously been recorded within the application area (Botanica, 2020). No additional introduced flora species were identified during the recent survey, however the desktop assessment identified twenty-one introduced taxa as potentially occurring within a 40 kilometre radius of the survey area (Botanica, 2020). Two of these taxa are listed as a Declared Pest, whilst one taxon is listed as a Weed of National Significance (Botanica, 2020). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower 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.

Botanica (2020) mapped two fauna habitat types within the application area that are considered well represented within the wider region. A desktop assessment identified 108 bird, 73 reptile, 26 mammal and 5 amphibian species with a potential to occur within the application area, including three species of conservation significance (Botanica, 2020; DAWE, 2021; DBCA, 2007-). No threatened or significant fauna species or habitats of significance were recorded within the application area during the field survey (Botanica, 2020). Evidence of introduced fauna species (rabbits, goats and cattle) were identified in the survey area in the form of droppings and grazing (Botanica, 2020).

The vegetation associations, fauna habitats and landform types present within the application area, are well represented in surrounding areas (Botanica, 2020; 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

Botanica (2020)
CALM (2002)
DAWE (2021)

DBCA (2007-)
Western Australian Herbarium (1998-)

GIS Database:
- IBRA Australia
- Aerial Imagery
- 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) conducted a fauna assessment of the application area in September 2020, which included habitat mapping and site observations. The following two fauna habitats have been recorded within the application area (Botanica, 2020):

- Clay-Loam Plain: Eucalypt Woodland / Casuarina Woodland; and
- Rocky Hillslope: Acacia Woodland / Casuarina Woodland / Eucalypt Woodland

The landforms and habitat prevalent within the application area are considered widespread within the region and not restricted to the application area (Botanica, 2020). No threatened or significant fauna species or restricted habitats of significance were recorded within the application area during the field survey (Botanica, 2020).

Two fauna species of conservation significance have distribution ranges that overlap with the application area: Peregrine Falcon (*Falco peregrinus*, OS) and Central Long-eared Bat (*Nyctophilus major tor*, P3) (Botanica, 2020; DAWE, 2020; DBCA, 2007-). However, these species are unlikely to be specifically dependent on the fauna habitats found within the application area and display broader distribution ranges (Botanica, 2020; GIS Database).

The Malleefowl (*Leipoa ocellata*, VU) is a species of conservation significance that occurs regionally (Botanica, 2020; DAWE, 2020; DBCA, 2007-). Botanica (2020) did not observe any Malleefowl individuals or evidence of recent activity (active mounds, tracks, feathers or bird observations etc.) during the survey. However, portions of the application area contain suitable Malleefowl breeding habitat and four old inactive mounds have previously been recorded within the survey area (Botanica, 2020).

Based on the presence of inactive Malleefowl mounds and the fact that a portion of the application area was not subject to targeted surveys, the proposed clearing may be at variance to this Principle. Potential impacts to the Malleefowl may be minimised by the implementation of a fauna management condition requiring further searches for Malleefowl during the breeding season and avoidance of mounds, if present.

Methodology

Botanica (2020)
DAWE (2021)
DBCA (2007-)

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). Flora surveys of the application area did not record any species of Threatened flora (Botanica, 2020).

The vegetation associations within the application area are common and widespread within the region (Botanica, 2020; GIS Database), and 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% 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 association 2903: Medium woodland; Salmon gum, goldfield blackbutt, gimlet & *Allocasuarina cristata* (GIS Database). Approximately 96% of the pre-European extent of this vegetation association 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	Least Concern	7.78
Beard vegetation associations – WA					
2903	28,308	27,330	~96	Least Concern	-
Beard vegetation associations – Murchison Bioregion					
2903	28,295	27,317	~96	Least Concern	-

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

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

Methodology

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

GIS Database:
- IBRA Australia
- Pre-European Vegetation

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

Comments

Proposal is at variance to this Principle

There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). Some ephemeral creek lines run off from the application area, which feed into larger drainage channels to the east and west of the application area (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall (CALM, 2002).

Based on the above, the proposed clearing is at variance to this Principle. However, the proposed mine site infrastructure (pit, tailing storage and waste rock landforms) will overlap these ephemeral drainage channels (Botanica, 2020) and the vegetation survey of the application area did not identify any riparian vegetation (Botanica, 2020). Hence, impacts from the proposed clearing itself to vegetation growing in association with watercourses are likely to be minimal.

Methodology Botanica (2020)
CALM (2002)

GIS Database:
- Hydrography, Lakes
- Hydrography, linear

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments

Proposal may be at variance to this Principle

The application area lies within the Bevon, Bunyip, Campsite, Gundockerta, Illaara, Lawrence and Moriarty land systems (GIS Database). These land systems have been mapped by the former Department of Agriculture (now the Department of Primary Industries and Regional Development).

The Bevon Land System is described as dissected uplands with mulga shrublands. The landform is dominated by stony plains with shallow red earths on greenstone. The narrow drainage tracks are susceptible to soil erosion, particularly if perennial shrub cover is substantially reduced or the soil surface is disturbed (DPIRD, 2021).

The Bunyip Land System consists of gilgaied drainage tracts draining greenstone hills supporting mixed halophytic shrubland, occasionally with black oak overstory. The gilgaied alluvial plains are slightly susceptible to soil erosion, particularly if perennial shrub cover is substantially reduced or the soil surface is disturbed (DPIRD, 2021).

The Campsite Land System is described of alluvial plains, supporting eucalypt woodlands with halophytic understoreys and acacia shrublands. The alluvial and stony plains are slightly susceptible to soil erosion if the perennial shrub cover or stone mantles are disturbed or removed. Impedance to the natural drainage characteristics can initiate accelerated soil erosion and cause loss of vigour in the downslope vegetation due to water starvation (DPIRD, 2021).

The Gundockerta Land System consists of extensive undulating calcareous stony plains supporting bluebush shrubland. Where not protected by a stony mantle the saline plains and adjacent lower alluvial tracts are susceptible to water erosion, particularly in areas where perennial shrub is reduced or the soil surface is disturbed (DPIRD, 2021).

The Illaara Land System is described of plains with ironstone gravel or calcrete mantles supporting eucalypt woodland and mulga-casuarina shrubland. This Land System is generally not susceptible to soil erosion (DPIRD, 2021).

The Lawrence Land System consists of low greenstone hills with ironstone ridges that support bluebush shrublands with mixed eucalypt overstoreys. The narrow drainage tracts in this land system are particularly susceptible to water erosion where perennial shrub cover is reduced or the soil surface is disturbed (DPIRD, 2021).

The Moriarty Land System is described of low greenstone rises and stony plains, supporting chenopod shrublands with patchy eucalypt overstoreys. The low rises, alluvial plains and narrow drainage tracts in this land system are moderately susceptible to water erosion if the perennial shrub cover is substantially reduced or the soil surface disturbed (DPIRD, 2021).

The proposed clearing of up to 420 hectares of native vegetation within a boundary of approximately 675 hectares, for the purpose of mineral production and associated activities may cause appreciable land degradation over a number of these land systems, if not adequately managed.

Based on the above, the proposed clearing may be at variance to this Principle. A staged clearing condition is recommended for the permit, to mitigate potential land degradation. This will reduce the potential for cleared areas to be left open for lengthy periods without appropriate use.

Methodology CALM (2002)
DPIRD (2021)

GIS Database:
- Hydrography, Lakes
- Hydrography, Linear

- Landsystem Rangelands
- Topographic Contours, Statewide

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments

Proposal is not likely to be at variance to this Principle

There are no conservation areas in the vicinity of the application area. The nearest DBCA (formerly DPaW) managed land is the former Goongarrie Station (UCL, LR3068/801) and Goongarrie National Park, which is located approximately 25 kilometres north-northeast of the application area (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 permanent watercourses or wetlands within the area proposed to clear (GIS Database). A number of number seasonal drainage lines run off from the application area. Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. Hence, the proposed clearing is unlikely to result in significant changes to the quality of surface water flows.

Groundwater salinity varies within the application area, ranging between 3,000 and 35,000 milligrams/Litre Total Dissolved Solids (GIS Database), with a major portion of the area lying within the more saline range. The proposed clearing is not likely to cause groundwater water quality within the application area to alter significantly.

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

Methodology

GIS Database:
- Groundwater salinity, State wide
- Hydrography, Lakes
- 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 Eastern Murchison is mostly hot and dry, with highly variable rainfall throughout the year. The climate is arid, with a mean annual rainfall of 200 millimetres, mainly occurring during winter (CALM, 2002). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (CALM, 2002).

There are no permanent water courses or water bodies within the application area (GIS Database), however a number seasonal drainage lines run off from the application area. 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)

GIS Database:
- Hydrography, linear
- Topographic Contours, Statewide

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

Comments

The clearing permit application was advertised on 11 January 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 is one native title claim (WC2017/007) over the area under application (DPLH, 2021). This claim has been registered with the National Native Title Tribunal 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 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

Botanica (2020) Detailed Flora/Vegetation Survey & Basic Fauna Survey – Kalgoorlie North Gold Project. Report prepared for Bardoc Gold Limited by Botanica Consulting Pty Ltd, October 2020.

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

DAWE (2021) EPBC Act Protected Matters Search Tool. Department of Agriculture, Water and the Environment. https://www.environment.gov.au/epbc/protected-matters-search-tool (Accessed 1 February 2021).

DBCA (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Biodiversity, Conservation and Attractions. https://naturemap.dbca.wa.gov.au/ (Accessed 1 February 2021).

DPIRD (2021) Advice received in relation to Clearing Permit Application CPS 9118/1. Office of the Commissioner of Soil and Land Conservation, Department of Primary Industries and Regional Development, Western Australia, February 2021.

DPLH (2021) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS (Accessed 1 February 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.

Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. https://florabase.dpaw.wa.gov.au/ (Accessed 27/01/2021).

5. Glossary

Acronyms:

BC Act	*Biodiversity Conservation Act 2016,* 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	*Environmental Protection Act 1986*, Western Australia

EPA	Environmental Protection Authority, 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.