



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8348/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: BHP Billiton Nickel West Pty Ltd

1.3. Property details

Property: Mining Lease 36/9
Mining Lease 36/294
Mining Lease 53/166
Mining Lease 53/217
Mining Lease 53/218
Mining Lease 53/489

Local Government Area: Shire of Leonora

Shire of Wiluna

Colloquial name: Cliffs to Mount Keith Haul Road

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
55.6		Mechanical Removal	Haul road

1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 07 March 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:
18: Low woodland; mulga (*Acacia aneura*); and
107: Hummock grasslands, shrub steppe; mulga and *Eucalyptus kingsmillii* over hard spinifex (GIS Database).

A flora and vegetation survey was conducted over the application area by Strategen Environmental Consultants Pty Ltd (Strategen) between 31 May and 1 June, 2018 (Strategen, 2019). The following five vegetation associations were recorded within the application area (Strategen, 2019):

- 1: *Acacia pruinocarpa* and *Acacia incurvaneura* tall open shrubland over *Eremophila galeata* sparse shrubland over *Ptilotus obovatus*, *Ptilotus helipteroides* low sparse shrubland with *Eragrostis eriopoda* sparse tussock grassland on sandy clay soils scattered with quartz and / or ironstone;
- 8: *Eucalyptus kingsmillii*, *Eucalyptus trivalva* and *Acacia caesaneura* low open woodland over *Eremophila spectabilis*, *Eremophila forrestii*, *Eremophila latrobei*, *Senna pleurocarpa* subsp. *pleurocarpa*, *Senna artemisioides* subsp. *helmsii* and *Senna artemisioides* subsp. *x artemisioides* mid sparse shrubland over *Triodia ?basedowii* low open hummock grassland;
- 10: *Acacia mulganeura*, *Acacia caesaneura* and *Acacia ?fuscaneura-pteraneura* low woodland over *Eremophila spectabilis*, *Acacia tetragonophylla* and *Maireana eriosphaera* sparse heathland;
- 11: *Acacia pteraneura* and *Acacia caesaneura* low open woodland over *Eremophila spectabilis*, *Eremophila forrestii* and *Ptilotus obovatus* low sparse shrubland over *Eragrostis eriopoda* sparse tussock grassland; and
- 12: *Acacia caesaneura* and *Acacia mulganeura* and *Acacia pruinocarpa* low woodland over *Eremophila spectabilis*, *Ptilotus obovatus* and *Psyrax suaveolens* mid sparse shrubland over *Triodia ?basedowii* open hummock grassland and isolated *Eragrostis eriopoda* tussock grasses.

Clearing Description Cliffs to Mount Keith Haul Road.
BHP Billiton Nickel West Pty Ltd proposes to clear up to 55.6 hectares of native vegetation, for the purpose of a haul road. The project is located approximately 80 kilometres south-east of Wiluna, within the Shires of Leonora and Wiluna.

Vegetation Condition Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (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 Strategen (2019). The majority (~88%) of the vegetation within the application area was in Excellent condition.

The proposed clearing is for an approximately nine kilometre long haul road to connect the Cliffs Mine and the Mount Keith Mine (BHP, 2019).

3. Assessment of application against Clearing Principles

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

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

The clearing permit application area is located within the Eastern Murchison subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Murchison Bioregion (GIS Database). The Eastern Murchison subregion is characterised by internal drainage, extensive areas of elevated red desert sandplains, salt lake systems, broad plains of red-brown soils and breakaway complexes, and red sandplains. The vegetation is dominated by mulga woodlands rich in ephemerals; hummock grasslands, saltbush shrubland and *Tecticornia* shrublands (CALM, 2002).

A reconnaissance flora and vegetation assessment of the application area was conducted by Strategen (2019) between 31 May and 1 June, 2018. A total of five vegetation associations were identified, of which none were representative of any Priority or Threatened Ecological Communities (Strategen, 2019). The majority (~88%) of the vegetation of the application area was assessed as being in Excellent condition, with the remaining area ranging from Good to Completely Degraded due to the presence of access tracks, infrastructure corridors (e.g. for powerlines) and fencing, and disturbance by feral animals and cattle (Strategen, 2019).

A total of 32 vascular flora species from 12 families were recorded during the reconnaissance flora and vegetation assessment of the application area (Strategen, 2019). Fourteen conservation significant flora species with potential to occur in the area, including one Threatened species, *Atriplex yeelirrie*, were identified during a desktop assessment (Strategen, 2019). Eight of the fourteen conservation significant flora, including *Atriplex Yeelirrie* (T), were considered unlikely to occur due to a lack of suitable habitat. The remaining six were considered as possibly occurring due to the presence of suitable habitat; *Eremophila pungens* (P4), *Eremophila* sp. long pedicels (G. Cockerton 1975) (P2), *Grevillea inconspicua* (P4), *Hybanthus floribundus* subsp. *chloroxanthus* (P3), *Tribulus adelacanthus* (P3) and *Verticordia jamiesonii* (P3). *Eremophila* sp. long pedicels (G. Cockerton 1975) (P2) was previously confirmed within the application area, however was not recorded by Strategen during the reconnaissance assessment (BHP, 2019; Strategen, 2019).

No weeds were recorded during the flora and vegetation assessments of the application area (BHP, 2019; Strategen, 2019). Weeds have the potential to out-compete native flora and reduce the biodiversity of an area. Potential impacts to biodiversity as a result of the introduction of weeds may be minimised by the implementation of a weed management condition.

A vertebrate fauna reconnaissance survey was conducted by Strategen (2019) between 31 May and 1 June, 2018, identifying three broad fauna habitats. These fauna habitats were; Mulga stony plain, *Acacia* shrubland with scattered *Eucalyptus* species and Mulga sand plain, and ranged from Good to Excellent condition (Strategen, 2019). All habitats recorded within the application area were considered to be widespread, common and of limited significance.

A desktop vertebrate fauna assessment by Strategen (2019) identified a total of 224 vertebrate fauna species from 71 families as having the potential to occur in the area; seven amphibians, 60 reptiles, 123 birds and 34 mammals. This included 32 conservation significant vertebrate species, including one reptile, 25 birds and six mammals. Of these conservation significant species only two; Malleefowl, *Leipoa ocellata* (T); and Brush-tailed Mulgara, *Dasyercus blythi* (P4), were determined to possibly occur in the application area due to the presence of suitable habitat. During the field assessment of the application area Strategen (2019) recorded 25 vertebrate fauna species from 18 families, consisting of four reptiles, 17 birds and four mammals. However, Strategen (2019) did not record any conservation significant fauna during their reconnaissance fauna survey.

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

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

Methodology BHP (2019)
CALM (2002)
Strategen (2019)

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

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

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

The following three fauna habitats have been recorded within the application area (Strategen, 2019): Mulga stony plain; *Acacia* shrubland with scattered *Eucalyptus* species; and Mulga sand plain.

The three fauna habitats ranged from Good to Excellent condition (Strategen, 2019). No tree hollows suitable for vertebrate fauna were recorded in any of the habitat types (Strategen, 2019). Burrowing stability was moderate in most areas with numerous tracks and burrows from reptiles, birds and small mammals observed (Strategen, 2019). All habitats recorded within the application area were considered to be widespread, common and of limited significance.

A desktop vertebrate fauna assessment by Strategen (2019) identified a total of 224 vertebrate fauna species from 71 families as having the potential to occur in the area, including 32 conservation significant vertebrate species. Of these conservation significant species only two; Malleefowl, *Leipoa ocellata* (T); and Brush-tailed Mulgara, *Dasyercus blythi* (P4), were determined to possibly occur in the application area due to the presence of suitable habitat. Although suitable habitat for Malleefowl was recorded within the application area and a number of relatively close records exist, no evidence of Malleefowl, or any other conservation significant fauna, was observed during the reconnaissance fauna survey (Strategen, 2019).

The fauna habitat types recorded within the application area were representative of the region and were well represented in surrounding areas (Strategen, 2019). No significant fauna habitat types or restricted habitat features such as rocky outcrops, caves, or watercourses were recorded within the application area. The application area is unlikely to represent significant habitat for fauna indigenous to Western Australia.

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

Methodology Strategen (2019)

GIS Database:

- Imagery
- Pre-European Vegetation
- Threatened Fauna

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

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

There are no known records of Threatened flora within the application area (GIS Database). A desktop flora assessment by Strategen (2019) identified one Threatened flora species, *Atriplex yeelirrie*, as having the potential to occur within the application area. However, it was considered unlikely to occur due to its restricted distribution and a lack of suitable habitat, being confined to self-mulching clay depressions and clay flats within calcrete systems to the west of the application area (Threatened Species Scientific Committee [TSSC], 2015). The flora survey of the application area did not record any species of Threatened flora (Strategen, 2019).

The vegetation associations within the application area are common and widespread within the region (GIS Database), and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened (rare) flora.

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

Methodology Strategen (2019)
TSSC (2015)

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 (Strategen, 2019).

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

Methodology Strategen (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 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, 2018). The application area is broadly mapped as Beard vegetation associations 18: Low woodland; mulga (*Acacia aneura*); and 107: Hummock grasslands, shrub steppe; mulga and *Eucalyptus kingsmillii* over hard spinifex (GIS Database). Approximately 99% of the pre-European extent of each of these vegetation associations remains uncleared at both the state and bioregional level (Government of Western Australia, 2018).

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
Beard vegetation associations – WA					
18	19,892,306	19,843,729	~99	Least Concern	6
107	2,815,387	2,813,995	~99	Least Concern	11
Beard vegetation associations – Murchison Bioregion					
18	12,403,172	12,363,252	~99	Least Concern	4
107	2,792,383	2,790,992	~99	Least Concern	11

* Government of Western Australia (2018)

** 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 (2018)

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 (BHP, 2019; GIS Database). Minor ephemeral creeks pass through the application area (BHP, 2019). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall.

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

Methodology BHP (2019)

GIS Database:

- Hydrography, Lakes
- Hydrography, linear

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

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

The application area lies within the Ararak, Bullimore, Jundee, Monk and Violet 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 Ararak land system is described as broad plains with mantles of ironstone gravel, supporting mulga shrublands with wanderrie grasses (Pringle et al., 1994). This land system is not generally susceptible to erosion (Pringle et al., 1994).

The Bullimore land system is characterised by extensive sandplains supporting spinifex hummock grasslands (Pringle et al., 1994). This land system may be susceptible to erosion if vegetation cover is removed (Pringle et al., 1994).

The Jundee land system consists of hardpan plains with ironstone gravel mantles, supporting mulga shrublands (Pringle et al., 1994). Gravel mantles generally provide effective protection against soil erosion, however soil erosion may occur if natural sheet flows are disturbed (Pringle et al., 1994).

The Monk land system is dominated by hardpan plains with occasional sandy banks, supporting mulga tall shrublands and wanderrie grasses (Pringle et al., 1994). This land system is not generally susceptible to erosion, however drainage tracts are mildly susceptible to water erosion (Pringle et al., 1994).

The Violet land system consists of undulating stony and gravelly plains and low rises, supporting mulga shrublands (Pringle et al., 1994). Abundant mantles provide effective protection against soil erosion, however areas become moderately susceptible to water erosion where the soil surface has been disturbed and narrow drainage tracts are mildly susceptible to water erosion (Pringle et al., 1994).

The proposed clearing of up to 55.6 hectares of native vegetation, for the purpose of a haul road 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 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

There are no conservation areas within the application area (GIS Database). The nearest DBCA (formerly DPaW) managed land is the Wanjarri Nature Reserve which is located approximately 2 kilometres east 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 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 (BHP, 2019; GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. The proposed clearing is unlikely to result in significant changes to surface water flows.

The proposed clearing is unlikely to cause deterioration in the quality of underground water.

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

Methodology BHP (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, with a low average rainfall of approximately 200 millimetres per year (CALM, 2002). The nearest weather station is Leinster Aero, approximately 60 kilometres south of the application area, with an average rainfall of approximately 264.5 millimetres per year (BoM, 2019).

There are no permanent water courses or waterbodies within the application area (BHP, 2019; 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 BHP (2019)
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 11 February 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 (WC2011/007) 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.

This application area partly overlaps the development envelope of the Mt Keith Satellite Project which was formally assessed by the EPA. Ministerial Statement 1087 was published on 27 December 2018 approving the project. The proposed clearing is in accordance with the requirement of the ministerial statement (EPA, 2019).

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 (2019)

4. References

- BHP (2019) Cliffs to Mount Keith Haul Road – Native Vegetation Clearing Permit Supporting Document. Report prepared by BHP Billiton Nickel West Pty Ltd, January 2019.
- BoM (2019) Bureau of Meteorology Website – Climate Data Online, Leinster Aero. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 14 February 2019).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DPLH (2019) Aboriginal Heritage Enquiry System. Department of Planning, Lands and Heritage. <http://maps.daa.wa.gov.au/AHIS/> (Accessed 14 February 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.
- EPA (2018) Statement that a proposal may be implemented (*Environmental Protection Act 1986*). Statement No. 1087 – Mt Keith Satellite Project. Environmental Protection Authority, 28 December 2018.
- Government of Western Australia (2018) 2017 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017. WA Department of Biodiversity, Conservation and Attractions. <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 northeastern Goldfields, Western Australia. Technical Bulletin No. 87. Department of Agriculture, Western Australia.

Strategen (2019) Cliffs Mine to Mount Keith Mine Haul Road – Flora, vegetation and fauna survey. Report prepared for BHP Billiton Nickel West Pty Ltd, by Strategen Environmental Consultants Pty Ltd, January 2019.

Threatened Species Scientific Committee (TSSC) (2015) Approved Conservation Advice for *Atriplex* sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025). Department of the Environment, Canberra. In effect under the *EPBC Act* from 22 October 2015. <http://www.environment.gov.au/biodiversity/threatened/species/pubs/85298-conservation-advice.pdf>.

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.