



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8915/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: GWR Group Limited

1.3. Property details

Property: Mining Lease 53/1087
Miscellaneous Licence 53/147
Local Government Area: Shire of Wiluna
Colloquial name: C4 Haul Road Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
60		Mechanical Removal	Haul Road and Associated Infrastructure

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 16 July 2020

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description The vegetation of the application area is broadly mapped as the following Beard vegetation associations:
18: Low woodland; mulga (*Acacia aneura*); and
107: Hummock grasslands, shrub steppe; mulga and *Eucalyptus kingsmillii* over hard spinifex (GIS Database).

Several flora and vegetation surveys have been conducted over the application area from August 2006 to January 2020 (GWR, 2020). The following vegetation associations have been recorded within the application area (GWR, 2020):

UAET: Low shrubland occurring on undulating lateritic low hills dominated by *Eremophila jucunda* subsp. *jucunda* and *Triodia melvillei* with scattered tall shrubs of *Acacia aneura*.

SUAE: Shrubland dominated by *Acacia rhodophloia* frequently over *Eremophila jucunda* subsp. *jucunda* with *E. latrobei* subsp. *latrobei* and *E. punctata*, and also *Aluta maisonneuvei* subsp. *Auriculata*.

SAES: Open *Acacia aneura* shrubland on stony red earth over scattered *Eremophila* spp., *Sida ectogama*, *Ptilotus obovatus*, and *P. schwartzii*.

SIME: Mulga shrubland dominated by *Acacia aneura* var. *microcarpa*, above *Eremophila forrestii* often with *E. punctata*, *E. flabellata* and *E. jucunda* subsp. *jucunda*.

MSET: Occurs on the lateritic soils, dominated by *Acacia aneura* var. *microcarpa*, above *Eremophila forrestii* often with *E. jucunda* subsp. *jucunda* over *Triodia melvillei*.

HPMD: Mulga woodland with a poorly developed low and mid shrub strata occupying the lowest part of the landscape.

HPMS: Scattered to moderately close tall mulga shrubland with a well-developed low and mid shrub strata.

SAMU: Scattered tall mulga shrubland over a hummock grass (*Triodia*) stratum.

SASP: *Triodia* grassland, where the hummock grass layer generally dominates in terms of projected foliar cover and biomass.

NS: Low Woodland dominated by *Casuarina pauper*, *Acacia aneura*, *Eremophila falcata*, *Senna artemisioides* subsp. *filifolia*, *Ptilotus obovatus* and *Enneapogon caeruleus*.

Clearing Description C4 Haul Road Project.
GWR Group Limited proposes to clear up to 60 hectares of native vegetation within a boundary of approximately 190 hectares, for the purpose of a haul road. The project is located approximately 23 kilometres west of Wiluna, within the Shire of Wiluna.

Vegetation Condition	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994). To Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).
Comment	The vegetation condition was derived from a vegetation survey conducted by GWR (2020).

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 may be at variance to this Principle**

The application area is located within the East Murchison sub-region of the Murchison Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). The East Murchison subregion is characterised by its internal drainage, and extensive areas of elevated red desert sandplains with minimal dune development. Vegetation is dominated by Mulga Woodlands often rich in ephemerals; hummock grasslands, saltbush Shrublands and Halosarcia Shrublands (Cowan, 2001).

Flora surveys of the project area have recorded a total of 279 native flora taxa from 120 genera and 41 families (Recon Environmental, 2010). Eighteen Priority flora species are known to occur within a 20 kilometre radius of the application area, however none have been recorded within the application area. No Threatened flora are known to occur within a 20 kilometre radius of the greater survey area (GWR, 2020; NatureMap).

There are no known Threatened Ecological Communities within or adjacent to the application area (GWR, 2020; GIS Database).

A proportion of the application area is located within the Priority 1 Priority Ecological Communities (PEC) Wiluna West Banded Ironstone Formation (BIF) and Millbillillie Bubble Well Calcrete. The Wiluna West BIF is approximately 7,456 hectares, with the application boundary covering approximately 0.004% of this (GIS Database). BIF ranges of the Yilgarn generally support vegetation units that vary in composition, even over short geographical distances. Some of these vegetation units have very restricted distributions within individual BIF ranges, especially on the ridges, and occur as islands that differ structurally and compositionally from the surrounding vegetation matrix (DPaW, 2015). Gibson et al (2012) noted that diversity between habitats was high across the BIF ranges in the Yilgarn including in more arid areas, such as Wiluna (DPaW, 2015). The Millbillillie Bubble Well Calcrete is approximately 2,110 hectares, with the application boundary covering approximately 0.012% of this (GIS Database). This subterranean fauna community is not likely to be impacted by the proposed clearing (GWR, 2020; GIS Database).

No Weeds of National Significance or Declared Pests under the *Biosecurity and Agricultural Management Act 2007* were recorded during the survey, however three introduced flora taxa were recorded. The proposed vegetation clearing has the potential to introduce weed species into the local area should adequate hygiene practices not be put in place. Weeds can affect biodiversity in a number of ways, including out competing native species for resources and increasing the fire risk. The potential spread of introduced species as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Fauna surveys conducted in the Wiluna West area have recorded a total of 71 bird, 27 mammal, two amphibian and 40 reptile species (Clark Lindbeck and Associates, 2015). Six of these species are of conservation significance, with four potentially utilising the application area. BIFs of the Midwest region tend to support a distinct assemblage of fauna in comparison to the surrounding flat areas of sandplain and woodland (DPaW, 2015; Government of Western Australia, 2007). The proposed clearing for the haul road is located predominantly away from the BIF ridges and will not reduce the extent of vegetation communities or reduce biodiversity on the BIF occurring within the region (GWR, 2020). The number of fauna species recorded at Wiluna West is similar to that of other BIFs within the Midwest region (Government of Western Australia, 2007).

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

Methodology Clark Lindbeck and Associates (2015)
Cowan (2001)
DPaW (2015)
Government of Western Australia (2007)
GWR (2020)
Keighery (1994)
NatureMap (2020)
Recon Environmental (2010)

GIS Database:
- IBRA Australia

- Pre-European Vegetation
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers
- Threatened and Priority Flora
- Threatened Fauna

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

Comments Proposal may be at variance to this Principle

The following five fauna habitats have been recorded within the application area (GWR, 2020):

- Calcrete;
- Sandplain;
- Stony Plain;
- Mulga Shrubland; and
- Sandplain Mulga.

The most extensive habitat type in the survey area is Sandplain habitat, followed by Mulga Shrubland habitat and the least extensive habitat type is Calcrete.

Four Level 2 fauna surveys and numerous targeted searches have been completed at the Wiluna West Project that have encompassed the fauna habitats present in the proposed clearing area. GWR (2020) have produced a summarised report from the below reports to identify habitats and species present within the application area (2020):

- 31 October – 9 November 2005 - Survey of M53/1016 and L53/148 (Ninox, 2005).
- 15 – 24 September 2006 – Survey covering the B ridge from Joyners Find (JWD) deposit to Bowerbird deposit (Ninox, 2006).
- 23 - 31 October 2007 – Survey of the 'C' Ridge (Ninox, 2008).
- May 2009 – Mulgara survey for the Wiluna West Project Area #3 Western Australia (GWR, 2009).
- 9 – 18 November 2011 – Level 2 fauna, fauna habitat assessment and SRE survey focusing on Bowerbird, C3 and C4 deposits (Keith Lindbeck and Associates, 2012)
- 20-24 September 2019 – Targeted Fauna Survey for the Eagle-Emu Deposits (Western Ecological, 2019).
- 20-22 and 28 March 2020 – Haul Road Targeted Fauna Assessment (Western Ecological, 2020) (Appendix 6).

A total of 71 bird, 27 mammal, two frog and 40 reptile species were recorded at the project during the Level 2 surveys (GWR, 2020). Four fauna species of conservation significance have been recorded within the overall Wiluna West Project to date, with one other species identified as potentially occurring through desktop analysis:

- Brush-tailed Mulgara (*Dasyercus blythi* – Priority 4 - recorded);
- Long-tailed Dunnart (*Sminthopsis longicaudata* - Priority 4 - recorded);
- Malleefowl (*Leipoa ocellata* – Threatened - recorded);
- Night Parrot (*Pezoporos occidentalis* – Threatened - desktop analysis); and
- Peregrine Falcon (*Falco peregrinus* – Schedule 7 - recorded).

Evidence of Brush-tailed Mulgara, including old burrows, tracks and a scat were observed at several locations by the Martu Men in the sandplain habitat (GWR, 2020). Some of the records are close to the proposed clearing area, although the sandplain habitat type occurs more widely outside of the haul road area, so it is likely there is a large regional population of brush-tailed mulgara (GWR, 2020). GWR Group Limited have committed to undertaking further assessment of the sandplain habitat prior to undertaking any clearing to determine whether active burrows are located within the proposed clearing area (GWR, 2020). It is recommended that a fauna management condition be placed on the permit to limit potential impacts to this fauna species.

No Malleefowl individuals, mounds or tracks were recorded during the preliminary fauna assessment completed by the Senior Martu Women (GWR, 2020). Previous surveys have identified two old/near-extinct/extinct mounds within the proposed clearing areas, and one inactive and old mound outside of the proposed clearing area (photos of the mounds and descriptions by the Martu Women indicate they are extinct) (GWR, 2020). It is not expected that the removal of these extinct mounds would have an impact on this species. GWR Group Limited have developed a Malleefowl Management Plan to limit potential impacts to Malleefowl and have prepared a referral to the Federal Department of Agriculture, Water and Environment to address any potential impacts to the Malleefowl.

The Long-tailed Dunnart is patchily distributed but can be locally common (GWR, 2020). Surveys conducted in the Goldfields suggest that the distributional range of the Long-tailed Dunnart is far greater than previously mapped, and that they are present in low abundance over an extensive part of Western Australia, excluding the southern portion of the state (GWR, 2020). The dunnarts recorded at the Wiluna West Project were captured in open *Acacia* shrubland with occasional eucalypts (GWR, 2020). There is no evidence of this species or this habitat in the proposed clearing area (GWR, 2020).

The Night Parrot was thought possibly to be extinct until discoveries of the species in Queensland and Pilbara and then in March 2017 a confirmed record from the Murchison (GWR, 2020). This species is considered one of the rarest and most elusive species. There are no nearby records for this species, and the sighting reported at Matuwa (Lorna Glen) is located >200km northeast of the Project (GWR, 2020; NatureMap, 2020). The Sandplain habitat and Sandplain Mulga habitat in the proposed haul road are the only habitats likely to be potentially suitable for the Night Parrot as there are areas of Spinifex. During the Western Ecological (2019) survey southeast of the proposed clearing, one Song Meter 2 acoustic recording unit was placed in Sandplain Mulga habitat approximately 50 m to the east of the proposed haul road easement for four nights. No Night Parrot calls were recorded (GWR, 2020). It is considered unlikely that this species occurs in the proposed clearing area.

The Peregrine Falcon is uncommon but widespread in distribution (GWR, 2020). This species inhabits cliff faces such as those along the coast, near rivers and ranges. The Peregrine Falcon can also be seen around wooded watercourses and lakes. It nests on ledges in cliffs as well as granite outcrops and quarries and also makes use of mine pits. This species can occasionally be seen in flight in this area, though based on mobility of this species and abundant suitable habitat located outside of the application area, it is considered unlikely that this species would be impacted by the proposed clearing.

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

Methodology GWR (2020)

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

The vegetation associations within the application area are common and widespread within the region (GWR, 2020; 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 GWR (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 (GWR, 2020).

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

Methodology GWR (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 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, 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	28,120,587	28,044,823	~99	Least Concern	7.79
Beard vegetation associations – WA					
18	19,892,306	19,843,148	~99	Least Concern	6.64
107	2,815,387	2,813,996	~99	Least Concern	11.55
Beard vegetation associations – Murchison Bioregion					
18	12,403,172	12,363,252	~99	Least Concern	4.97
107	2,792,383	2,790,992	~99	Least Concern	11.61

* Government of Western Australia (2019)

** Department of Natural Resources and Environment (2002)

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

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

GIS Database:

- IBRA Australia
- Pre-European Vegetation

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

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

There are no watercourses or wetlands within the area proposed to clear (GIS Database). The proposed haul road intercepts an alluvial flood-plain, however this is only likely to be inundated after significant rain fall events. GWR (2020) notes that the drainage paths in the alluvium cannot be well defined, and considers it likely that drainages are discontinuous and discharge onto broad areas of alluvium; or are braided. Much of the flood flows will occur as sheet flow down the valley, which is flat lying (GWR, 2020).

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

Methodology GIS Database:
- Hydrography, Lakes
- Hydrography, linear

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

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

The application area lies within the Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Murchison Region is characterised by undulating hills, with occasional ranges of low hills and extensive sand plains in the eastern half. The principal soil type is shallow earthy loam overlying red-brown hardpan; shallow stony loams on hills and red earthy sands on sand plains (Beard, 2013).

The application area has been mapped as occurring on the Fisher, Violet, Glengarry, Dural, Gabanintha and Sherwood land systems (GIS Database):

- The Bullimore land system is characterised by sandplains and occasional dunes with spinifex grasslands.
- The Cunyu land system is characterised by calcrete plains with acacia shrublands.

- The Glengarry land system is characterised by hills and ranges with acacia shrublands.
- The Yanganoo land system is characterised by wash plains and sandy banks on hardpan, with mulga shrublands and wanderrrie grasses on spinifex.

These land systems are generally not susceptible to erosion. The Wiluna West Range is similar to most Banded Ironstone Formations (BIF's) of the Yilgarn Craton which are characterised by a stony surface mantle which provides effective protection against soil erosion (Government of Western Australia, 2007).

At a broad scale the pH of the soil within the application area ranges from 5.5 - 6.0 and there is no known occurrence of acid sulphate soils (CSIRO, 2014). Given the application area's position in the landscape, the proposed clearing is not likely to cause any water logging or an increase in the ground water level causing salinity.

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

Methodology Beard (2013)
CSIRO (2014)
Government of Western Australia (2007)

GIS Database:
- IBRA Australia
- Landsystem Rangelands
- Soils, 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 Mooloogool Pastoral Lease which is located approximately 37 kilometres west 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 (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 GIS Database:
- Hydrography, Linear
- Public Drinking Water Source Areas

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

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

The climate of the region is semi-arid, with a low average rainfall of approximately 256.3 millimetres per year (BoM, 2020). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall.

There are no permanent watercourses or waterbodies within the application area (GIS Database). Seasonal drainage lines are common in the region and temporary localised flooding may occur briefly following heavy rainfall events. However, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.

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

Methodology BoM (2020)

GIS Database:

- Hydrographic Catchments - Catchments
- Hydrography, linear

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

Comments

The clearing permit application was advertised on 1 June 2020 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim over the area under application (DPLH, 2020). 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, 2020). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Water and Environmental Regulation and the Department of Biodiversity, Conservation and Attractions, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

Methodology DPLH (2020)

4. References

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- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Markey, A.S, and Dillon, S.J. (2009) Flora and vegetation of the banded iron formations of the Yilgarn Craton: Herbert Lukin Ridge (Wiluna). Conservation Science W. Aust. 7 (2): 391–412.
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- Recon Environmental (2010) Joyner's Find Hills Regional Vegetation Survey. Unpublished report for Golden West Resources, dated March 2010.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DBCA and DWER)
DoEE	Department of the Environment and Energy, Australian Government
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora
DoE	Department of the Environment, Australian Government (now DoEE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DoEE)
DWER	Department of Water and Environmental Regulation, Western Australia
EPA	Environmental Protection Authority, Western Australia
EP Act	<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.