



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8854/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Carnegie Gold Pty Ltd

1.3. Property details

Property: Mining Lease 30/157
Mining Lease 30/256
Local Government Area: Shire of Menzies
Colloquial name: Riverina Gold Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 18 June 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:
20: Low woodland; mulga mixed with *Allocasuarina cristata* and *Eucalyptus* sp.;
251: Low woodland; mulga and *Allocasuarina cristata*; and
502: Medium woodland; goldfields blackbutt and red mallee (GIS Database).

A flora and vegetation survey was conducted over the application area by Jenny Borger Botanical Consulting (JBBC) during February 2017 and November 2019. The following vegetation associations were recorded within the application area (JBBC, 2019):

***Eucalyptus oleosa* woodland to open woodland on plains**

Eucalyptus oleosa subsp. *oleosa*, *Eucalyptus lesouefii*, *Casuarina pauper* woodland to open woodland over *Eremophila longifolia*, *Eremophila decipiens* subsp. *decipiens*, *Acacia burkittii*, *Acacia tetragonophylla*, *Scaevola spinescens* and / or *Senna artemisioides* subsp. *filifolia* open shrubland over *Ptilotus obovatus*, *Scaevola spinescens*, *Solanum lasiophyllum*, *Maireana sedifolia*, *Maireana georgei*, *Maireana pyramidata* low sparse shrubland over *Sclerolaena diacantha*, *Sida spodochroma*, *Ptilotus obovatus* low sparse forland with isolated grass tussocks.

***Acacia fuscaneura*, *Casuarina pauper* isolated trees to low open woodland over *Acacia tetragonophylla*, *Acacia burkittii* open shrubland**

Acacia fuscaneura, *Casuarina pauper*, *Acacia aptaneura* isolated trees to low open woodland over *Acacia tetragonophylla*, *Acacia burkittii*, *Acacia fuscaneura*, *Acacia ramulosa* var. *ramulosa* tall open shrubland over *Dodonaea lobulata*, *Eremophila latrobei* subsp. *latrobei*, *Eremophila* sp. Mt Jackson (G.J. Keighery 4372), *Scaevola spinescens* open shrubland over *Ptilotus obovatus*, *Senna artemisioides* subsp. *filifolia*, *Solanum lasiophyllum*, *Solanum nummularium*, *Maireana georgei*, *Maireana pyramidata*, *Sida calyxhymentia*, *Sida spodochroma*, *Sida* sp. *Excedentifolia* (J.L. Egan 1925) low open shrubland.

***Casuarina pauper*, *Pittosporum angustifolium*, *Santalum spicatum* mid-dense to dense tall shrublands / low forest in water gaining areas**

Casuarina pauper, *Eucalyptus oleosa* subsp. *oleosa*, *Pittosporum angustifolium* open woodland over *Acacia burkittii*, *Santalum spicatum*, *Santalum acuminatum*, *Eremophila oldfieldii* subsp. *angustifolia* tall shrubland / low open forest over *Acacia tetragonophylla*, *Acacia murrayana*, *Acacia burkittii*, *Santalum spicatum*, *Dodonaea lobulata* tall open shrubland over *Senna artemisioides* subsp. *filifolia*, *Acacia murrayana* open shrubland over *Senna artemisioides* subsp. *filifolia*, *Ptilotus obovatus*, *Maireana georgei*, *Maireana tomentosa* low sparse shrubland over *Abutilon oxycarpum*, *Euphorbia drummondii*, *Ptilotus obovatus*, *Monachather paradoxus* low open forland.

***Eucalyptus concinna*, *Eucalyptus oleosa* subsp. *oleosa*, *Casuarina pauper* low woodland over *Santalum spicatum*, *Eremophila oldfieldii* subsp. *angustifolia*, *Acacia burkittii*, *Acacia tetragonophylla*, *Alectryon oleifolius* subsp. *canescens* tall open shrubland**

Eucalyptus oleosa subsp. *oleosa* woodland or *Casuarina pauper* forest over *Alectryon oleifolius* subsp. *canescens*, *Exocarpos aphyllus*, *Acacia tetragonophylla* tall open shrubland over *Eremophila* sp. Mt Jackson

(G.J. Keighery 4372), *Eremophila alternifolia*, *Casuarina pauper*, *Acacia burkittii*, *Scaevola spinescens* open shrubland over *Ptilotus obovatus*, *Senna artemisioides* subsp. *filifolia*, *Acacia fuscaneura*, *Acacia erinacea*, *Maireana georgei*, *Olearia muelleri* low open shrubland.

Casuarina pauper low trees / Acacia, Eremophila and Senna on mid to upper slopes with high rock cover
Casuarina pauper low woodland to open woodland with scattered *Eucalyptus oleosa* trees over *Eremophila* sp. Mt Jackson (G.J. Keighery 4372), *Eremophila alternifolia*, *Acacia tetragonophylla*, *Acacia hemiteles*, *Senna artemisioides* subsp. *filifolia* tall sparse shrubland over *Casuarina pauper*, *Scaevola spinescens*, *Acacia tetragonophylla*, *Dodonaea lobulata*, *Eremophila* sp. Mt Jackson (G.J. Keighery 4372) open shrubland over *Ptilotus obovatus*, *Casuarina pauper*, *Olearia muelleri*, *Dodonaea lobulata*, *Scaevola spinescens* low sparse shrubland over *Ptilotus obovatus*, *Maireana trichoptera*, *Austrostipa elegantissima*, *Casuarina pauper* low sparse shrubland with isolated grass tussocks.

Acacia quadrimarginea, Acacia species, Eremophila species on outwash slopes
Acacia quadrimarginea, *Acacia burkittii*, *Eremophila oldfieldii* subsp. *angustifolia*, *Allocasuarina acutivalvis* subsp. *acutivalvis*, *Acacia ramulosa* var. *ramulosa* low open woodland over *Ptilotus obovatus* low open shrubland over *Cheilanthes sieberi*, *Monachather paradoxus*, *Maireana* species and *Sclerolaena* species low open fernland with germinating grasses and shrubs.

Acacia incurvaneura, Grevillea nematophylla / Hybanthus floribundus on upper slope to crest
Grevillea nematophylla subsp. *nematophylla* isolated medium trees over *Acacia incurvaneura* low open forest over *Acacia burkittii*, *Acacia tetragonophylla*, *Acacia ramulosa* var. *ramulosa*, *Eremophila clarkei*, *Casuarina pauper* tall open shrubland over *Philotheca brucei* subsp. *brucei*, *Eremophila clarkei*, *Dodonaea lobulata*, *Dodonaea rigida*, *Scaevola spinescens* sparse shrubland over *Hybanthus floribundus* subsp. *curvifolius*, *Philotheca brucei* subsp. *brucei*, *Dodonaea rigida*, *Eremophila clarkei*, *Scaevola spinescens* low open shrubland.

Eucalyptus clelandiorum, Eucalyptus lesouefii woodland on basalt hills
Eucalyptus clelandiorum, *Eucalyptus lesouefii* open forest over *Eremophila* sp. Mt Jackson (G.J. Keighery 4372) tall sparse shrubland or *Alectryon oleifolius*, *Acacia burkittii*, *Acacia quadrimarginea*, *Acacia tetragonophylla* tall sparse shrubland over *Eremophila pustulata*, *Eremophila* sp. Mt Jackson (G.J. Keighery 4372), *Senna artemisioides* subsp. *filifolia*, *Scaevola spinescens* sparse shrubland over *Eremophila* sp. Mt Jackson (G.J. Keighery 4372), *Olearia muelleri*, *Eremophila pustulata*, *Scaevola spinescens*, *Ptilotus obovatus*, *Maireana sedifolia*, *Maireana triptera*, *Maireana trichoptera* low sparse shrubland.

Clearing Description	Riverina Gold Project. Carnegie Gold Pty Ltd proposes to clear up to 219.5 hectares of native vegetation within a boundary of approximately 219.5 hectares, for the purpose of mineral production and associated activities. The project is located approximately 45 kilometres west of Menzies, within the Shire of Menzies.
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 JBBC (2019). The area has been subjected to previous mining and pastoral activities (OraBanda, 2020). The proposed clearing is for minesite and infrastructure expansion including the construction of a waste rock landform, extension of internal mine roads, realignment of sections of existing Shire of Menzies managed roads, construction of a camp and supporting infrastructure to the mining operations (OraBanda, 2020). The area proposed to be cleared exists adjacent to a historical mine that commenced mining activities in the 1980s (OraBanda, 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 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, and extensive areas of elevated red desert sandplains with minimal dune development; broad plains with red-brown soils and breakaway complexes as well as red sandplains; and salt lake systems (CALM, 2002). Vegetation is dominated by mulga woodlands often rich in ephemerals; hummock grasslands, saltbush shrublands and <i>Tecticornia</i> shrublands (CALM, 2002). A reconnaissance flora and vegetation survey of the application area was conducted by JBBC (2019) on 19 February 2017 and 2 November 2019. Vegetation was dominated by <i>Eucalyptus</i> woodlands, <i>Acacia</i> woodlands and <i>Casuarina</i> woodlands (JBBC, 2019). Vegetation within the application area was representative of regional vegetation (JBBC, 2019). No Threatened or Priority Ecological Communities were identified as potentially occurring in the application area and the field assessments of the application did not record any (JBBC 2019; GIS Database). A total of 95 flora species from 41 genera and 26 families were recorded within the application area and
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surrounding areas (JBBC, 2019). A desktop assessment identified nine Priority flora previously recorded within 30 kilometres of the application area (JBBC, 2019). Four of these species were determined to be unlikely to occur due to a lack of suitable habitat, however four Priority species were considered to have a low or moderate likelihood of occurring and one Priority species, *Eutaxia nanophylla* (P3), was considered likely to occur due to the presence of suitable habitat (JBBC, 2019). *Eutaxia nanophylla* (P3) was previously recorded in the area (GIS Database), however no Threatened or Priority flora species were identified during the field assessment of the application area (JBBC, 2019). As the field survey was conducted at a sub-optimal time, with very few annual species being present, it is possible that annual Priority flora species were present and not detected (JBBC, 2019). However, none of the Priority flora species potentially present are locally or regionally restricted, and all occur across multiple IBRA regions (Western Australian Herbarium, 1998-). It is unlikely that the proposed clearing will have a significant impact on the conservation status of Priority flora potentially present.

Two species of weeds, *Salvia verbenaca* (Wild Sage) and *Solanum nigrum* (Black Berry Nightshade), were recorded during the field surveys of the application area (JBBC, 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 fauna habitat assessment of the application area was conducted by Biostat (2020) on 11 December 2019 by car. Malleefowl (*Leipoa ocellata*, VU) and night parrot (*Pezoporus occidentalis*, CR at state level and EN at federal level) were identified as potentially occurring within the application area due to the presence of suitable habitat (Biostat, 2020). Malleefowl were identified as being highly likely to occur, however night parrot were described as having a low likelihood of occurring (Biostat, 2020). The application area was not traversed on foot during the fauna survey, however during the flora survey no evidence of malleefowl were recorded (Biostat, 2020; JBBC, 2019).

The vegetation associations, fauna habitats and landform types present within the application area, are well represented in surrounding areas (Biostat, 2020; JBBC, 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 Biostat (2020)
CALM (2002)
JBBC (2019)
Western Australian Herbarium (1998-)

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

A fauna habitat assessment of the application area was conducted by Biostat (2020) on 11 December 2019 by car. The following six fauna habitats have been recorded within the application area (Biostat, 2020):

Acacia / *Casuarina* woodland on plains;
Acacia / *Casuarina* on slopes;
Eucalyptus / *Casuarina* woodlands in valleys;
Eucalyptus woodlands on hills;
Eucalyptus woodlands on plains; and
Tall shrublands on drainage lines.

The majority of the fauna habitats were described as degraded (Biostat, 2020). However, areas in the north and west of the application area contained higher quality fauna habitat likely to support a higher fauna diversity and potential habitat for malleefowl and night parrot were identified (Biostat, 2020). None of the fauna habitats described were restricted to the application area and the vegetation proposed to be cleared is unlikely to represent significant habitat for fauna in a local or regional context. Potential impacts to malleefowl as a result of the proposed clearing may be minimised by the implementation of a malleefowl management condition.

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

Methodology Biostat (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 (JBBC, 2019).

The vegetation associations within the application area are common and widespread within the region (JBBC, 2019; 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 JBBC (2019)

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 (JBBC, 2019).

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

Methodology JBBC (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, 2019). The application area is broadly mapped as Beard vegetation associations 20: Low woodland; mulga mixed with *Allocasuarina cristata* and *Eucalyptus* sp.; 251: Low woodland; mulga and *Allocasuarina cristata*; and 502: Medium woodland; goldfields blackbutt and red mallee (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	28,120,586	28,044,823	~99	Least Concern	7
Beard vegetation associations – WA					
20	1,295,103	1,292,474	~99	Least Concern	19
251	173,096	172,864	~99	Least Concern	69
502	46,196	46,004	~99	Least Concern	15
Beard vegetation associations – Murchison Bioregion					
20	1,174,259	1,171,630	~99	Least Concern	15
251	58,012	57,780	~99	Least Concern	9
502	13,400	13,267	~99	Least Concern	51

* 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 (JBBC, 2019; GIS Database). A number of seasonal creek lines pass through the application area (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall.

The application area contains one vegetation type that is growing in association with drainage lines: *Casuarina pauper*, *Pittosporum angustifolium*, *Santalum spicatum* mid-dense to dense tall shrublands / low forest in water gaining areas (JBBC, 2019).

Based on the above, the proposed clearing is at variance to this Principle. Potential impacts to vegetation growing in association with the watercourse may be minimised by the implementation of a watercourse management condition.

Methodology JBBC (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 may be at variance to this Principle

The application area lies within the Lawrence and Moriarty land systems (GIS Database). These land systems have been mapped and described in technical bulletins produced by the former Department of Agriculture (now the Department of Primary Industries and Regional Development).

The Lawrence land system consists of low greenstone hills with ironstone ridges, supporting pearl bluebush shrublands with mixed eucalypt overstoreys. This land system may be susceptible to erosion, particularly where vegetation cover is removed (Pringle et al., 1994).

The Moriarty land system is described as low greenstone rises and stony plains, supporting chenopod

shrublands with patchy eucalypt overstoreys. This land system is moderately susceptible to erosion (Pringle et al., 1994).

Based on the above, the proposed clearing may be at variance to this Principle. Potential land degradation impacts as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

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 in the vicinity of the application area. The nearest DBCA (formerly DPaW) managed land is the former Credo Pastoral Lease which is located approximately three kilometres south 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 arid, with an average annual rainfall of approximately 200 millimetres occurring primarily in winter (CALM, 2002). The nearest weather station is Menzies, approximately 45 kilometres east of the application area, with an average rainfall of approximately 254 millimetres per year (BoM, 2020).

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

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

Methodology BoM (2020)
CALM (2002)

GIS Database:
- Hydrography, linear

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

Comments

The clearing permit application was advertised on 20 April 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 are no native title claims over the area under application (DPLH, 2020). 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

- Biostat (2020) Vegetation Clearing – Fauna Assessment. Report prepared for Ora Banda Mining, by Biostat Pty Ltd, March 2020.
- BoM (2020) Bureau of Meteorology Website – Climate Data Online, Menzies. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 25 May 2020).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DPLH (2020) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <http://maps.daa.wa.gov.au/AHIS/> (Accessed 22 May 2020).
- 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>
- JBBC (2019) Targeted Vegetation and Flora Survey - Riverina Gold Operations. Report prepared for Ora Banda Mining Limited, by Jenny Borger Botanical Consulting, November 2019.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Pringle, H.J.R., Van Vreeswyk, A.M.E. and Gilligan, S.A. (1994) An inventory and condition survey of the north-eastern Goldfields, Western Australia. Technical Bulletin No. 87. Department of Agriculture, South Perth, Western Australia.
- Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/> (Accessed 10 June 2020).
- OraBanda (2020) Riverina Gold Operations Application for Clearing Permit (Purpose Permit) Riverina Pit Extensions M30/256 and M30/157. Report prepared by OraBanda Mining Limited, March 2020.

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.