



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8426/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Hamersley Iron Pty Ltd

1.3. Property details

Property: Iron Ore (Hamersley Range) Agreement Act 1963, Mining Lease 4SA (AML 70/4)
Local Government Area: Shire of Ashburton
Colloquial name: Bourne Highway Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
50		Mechanical Removal	Mineral Exploration and associated activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 2 May 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 association: 82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana* (GIS Database).

A flora and vegetation survey of the broader area was conducted over the application area by Rio Tinto and Biota Environmental Services during June to July, 2017 (Hamersley, 2018). The following vegetation associations were recorded within the application area (Hamersley, 2018):

1. Low open woodland of *Eucalyptus leucophloia* subsp. *leucophloia* over open shrubland of *Acacia arida* and *Acacia marramamba* over hummock grassland of *Triodia wiseana*, and *Triodia* sp. Robe River (M.E. Trudgen et al. MET 12367) more recently known as *Triodia pisolitica*;
2. Scattered low trees of *Eucalyptus leucophloia* subsp. *leucophloia* over open shrubland of *Acacia bivenosa* over hummock grassland of *Triodia wiseana*;
3. Scattered low trees of *Eucalyptus leucophloia* over scattered shrubs of *Acacia bivenosa* over low open shrubland of *Maireana* sp. over open hummock grassland of *Triodia angusta* and *Triodia wiseana*;
4. Low open woodland of *Eucalyptus leucophloia* subsp. *leucophloia* over open shrubland of *Acacia bivenosa*, *Acacia monticola* and *Acacia arida* over open hummock grassland of *Triodia wiseana* over scattered tussock grasses of *Cymbopogon ambiguus* and *Eriachne mucronata*;
5. Scattered low trees of *Corymbia hamersleyana* over tall shrubland of *Acacia pyrifolia*, *Gossypium robinsonii* and *Grevillea wickhamii* subsp. *aprica* over open shrubland of *Acacia arida* over hummock grassland of *Triodia wiseana* over scattered tussock grasses of *Cymbopogon ambiguus*;
6. Low woodland of *Corymbia ferritcola* over tall open shrubland of *Acacia citrinoviridis* over open hummock grassland of *Triodia wiseana* over open tussock grassland of *Eriachne mucronata* and *Cymbopogon ambiguus*; and
7. Scattered low trees of *Corymbia ferritcola* over tall open shrubland of *Dodonaea pachyneura* and mixed *Acacia* species over scattered low shrubs of *Triumfetta maconochieana* over open hummock grassland of *Triodia pisolitica* and *Triodia wiseana* over open tussock grassland of *Eriachne mucronata*.

Clearing Description Bourne Highway Project.
Hamersley Iron Pty Ltd proposes to clear up to 50 hectares of native vegetation within a boundary of approximately 456 hectares, for the purpose of mineral exploration, geotechnical and associated activities. The project is located approximately 104 kilometres north west of Tom Price, within the Shire of Ashburton.

Vegetation Condition	Pristine: No obvious signs of disturbance (Keighery, 1994). To Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).
Comment	The vegetation condition was initially described in the vegetation survey conducted by Rio Tinto and Biota Environmental Services in 2017. The vegetation condition scale was rated using the Trudgen scale (Hamersley, 2018; Trudgen, 1988), and has been converted to the Keighery scale (Keighery, 1994). The proposed clearing is for mineral exploration, geotechnical and associated activities (Hamersley, 2018). The application area is within intact vegetation and undisturbed ground (Hamersley, 2018). Parts of the application area overlap with existing permits CPS 7627/1 and CPS 6164/1, previously granted to Fortescue Metals Group Ltd for as access tracks across Hamersley Iron tenure.

3. Assessment of application against Clearing Principles

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

Comments	<p>Proposal is not likely to be at variance to this Principle</p> <p>The clearing permit application area is located within the Hamersley subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Pilbara Bioregion (GIS Database). The Hamersley subregion is characterised by ranges and plateaux, dissected by gorges, supporting Mulga low woodland over bunch grass (CALM, 2002).</p> <p>Several flora surveys of the application area were undertaken, the most recent being in June and July 2017 by Rio Tinto and Biota Environmental Services. The survey recorded a total of 144 flora taxa (species, subspecies and varieties), from 82 genera and 42 families (Hamersley, 2018).</p> <p>There are no records of Threatened Flora within the application area, and none were recorded during the flora survey. However, the survey recorded six species of Priority flora: <i>Sida</i> sp. Hamersley Range (K. Newbey 10692) (Priority 3); <i>Indigofera</i> sp. Bungaroo Creek (S. van Leeuwen 4301) (Priority 3); <i>Triodia pisoliticola</i> (Priority 3); <i>Eremophila magnifica</i> subsp. <i>magnifica</i> (Priority 4); <i>Ptilotus mollis</i> (Priority 4) and <i>Rhynchosia bungarensis</i> (Priority 4) (Hamersley, 2018) within the application area. The clearing is unlikely to impact the status of Priority flora species as the proposed clearing area is relatively small and these Priority species are well represented outside the application area (Hamersley, 2018; GIS Database).</p> <p>There are records of the Priority Ecological Community (PEC) <i>Triodia pisoliticola</i> (previously <i>Triodia</i> sp. Robe River) (Priority 3) assemblages of mesas of the West Pilbara within close proximity to the application area (GIS Database). The buffer boundary for the PEC is approximately 4km to the north west of the application area at nearest point (GIS Database). However, the proposed clearing is not likely to impact on the PEC.</p> <p>The following weed species were recorded in the application area: <i>Argemone ochroleuca</i> subsp. <i>ochroleuca</i>; <i>Bidens bipinnata</i> and <i>Cenchrus ciliaris</i> (Hamersley, 2018). None of these species are listed as declared plants under the <i>Biosecurity and Agriculture Management Act 2007</i> (DPIRD, 2019). Clearing activities may spread or introduce weeds, which have the potential to out-compete native flora and reduce the biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.</p> <p>A fauna survey of the application area undertaken by Ecological Australia in 2015, recorded five broad fauna habitats within the area. The survey also recorded evidence of the conservation significant species <i>Pseudomys chapmani</i> (Western Pebble-mound Mouse) (Priority 4), and Pilbara Leaf-nosed Bat (<i>Rhinoicteris aurantia</i>) (Vulnerable) in the application area (Hamersley, 2018). However, further investigations found the mound was considered to be inactive and not likely to support the Mouse. A targeted survey undertaken in 2017 to ascertain if there was a Pilbara Leaf-nosed Bat roost within the application found no roosts in the application area (Hamersley, 2018).</p> <p>A desktop review, based on the fauna survey report, and field investigations determined that four conservation listed fauna species have the potential to occur within the application area: <i>Dasyurus hallucatus</i> (Northern quoll); <i>Liasis olivaceus</i> subsp. <i>barroni</i> (Pilbara olive python); <i>Falco hypoleucos</i> (Grey falcon) and <i>Notoscincus butleri</i> (Lined soil-crevice skink) (Hamersley, 2018). However, given there are no permanent pools in the application area, the fauna's dispersal ability and the relatively small size of the proposed clearing area, it is considered unlikely the proposed clearing will significantly impact these species (Hamersley, 2018).</p> <p>The vegetation associations, fauna habitats and landform types present within the application area, are well represented in surrounding areas (Hamersley, 2018; GIS Database). The application area is unlikely to represent an area of higher biodiversity than surrounding areas, in either a local or regional context.</p>
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Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology CALM (2002)
DPIRD (2019)
Hamersley (2018)

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 five fauna habitats have been recorded within the application area (Ecological Australia, 2015; Hamersley, 2018):

1. Rocky slopes;
2. Rocky breakaways and cliffs;
3. Gullies;
4. Drainage lines; and
5. Plains.

These fauna habitats are not considered to be restricted at a local or regional level (Hamersley, 2018).

A desktop study assessed the fauna habitats' potential to support conservation significant species and likelihood or potential for the species to occur within the application area (Hamersley, 2018). None of the fauna habitats were considered to hold elevated conserved significance (Hamersley, 2018).

However, the fauna survey recorded evidence of two conservation significant fauna, the Western Pebble-mound Mouse (Priority 4) and the Pilbara Leaf-nosed Bat (Vulnerable) (Hamersley, 2018).

1. One inactive Western Pebble-mound Mouse Mound; and
2. Echolocations of the Pilbara Leaf-nosed Bat (PLNB).

The mound was covered in vegetation and was no longer intact, therefore, it is not likely that the Western Pebble-mound Mouse had inhabited the mound in recent years (Hamersley, 2018).

A follow up targeted survey for PLNB roosts in October 2017, found no roosts within the application area and that it was likely that the echolocations recorded came from a PLNB roost located north of the application area (Hamersley, 2018).

The PLNB may potentially forage within the application area; the area lacks water pools and deep caves suitable for roosting habitat. Therefore, it is unlikely that the proposed clearing will impact significant habitat of the PLNB (Hamersley, 2018).

The fauna within the application area are not likely to depend specifically on the habitat within the application area, given the fauna's ability to disperse and the lack of permanent water source and the occurrence of similar habitats in surrounding areas.

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

Methodology Hamersley (2018)

GIS Database:

- Imagery
- Pre-European Vegetation
- Threatened Fauna
- Hydrography, linear

(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 (Hamersley, 2018).

 The vegetation associations identified within the application area are considered to be common and widespread within the region (Hamersley, 2018; GIS Database). 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 Hamersley (2018)

 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 the application area or within close proximity to the application area (GIS Database). A flora and vegetation survey of the application area did not identify any TECs (Hamersley, 2018).

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

Methodology Hamersley (2018)

 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 Pilbara Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 99% of the pre-European vegetation still exists in the IBRA Pilbara Bioregion (Government of Western Australia, 2018). The application area is broadly mapped as Beard vegetation association 82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana* (GIS Database). Approximately 99% of the pre-European extent of the vegetation association 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 – Pilbara	17,808,657	17,733,583	~99	Least Concern	10
Beard vegetation associations – WA					
82	2,565,901	2,553,217	~99	Least Concern	11
Beard vegetation associations – Pilbara Bioregion					
82	2,563,583	2,550,898	~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 (Hamersley, 2018; GIS Database). There are seasonal creek lines passing through the application area (GIS Database). Small minor ephemeral drainage lines located in the application area are dry for most of the year, only flowing briefly immediately following significant rainfall events (Hamersley, 2018).

There is vegetation growing in association with the seasonal creek lines, minor drainage lines and broad gullies, however, this vegetation comprises less than 10 percent of the application area, therefore, potential impacts are likely to be minimal (Hamersley, 2018; GIS Database).

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

Methodology Hamersley (2018)

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 not likely to be at variance to this Principle

The application area lies within the Newman land system (GIS Database). This land system has been mapped and described in technical bulletins produced by the former Department of Agriculture (now the Department of Primary Industries and Regional Development).

The Newman land system is described as rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands. This land system is not generally susceptible to erosion (Payne et al., 1998)

The proposed clearing of up to 50 hectares of native vegetation within a boundary of approximately 456 hectares, for the purpose of mineral exploration and associated activities 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 Payne et al. (1998)

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 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 Cane River Conservation Park Nature, approximately 88 kilometres to the north west of the application area. 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:

(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 the application area or in close proximity to the application area (GIS Database). The nearest Public Drinking Water Area is the Bungaroo Creek Water Reserve, approximately 36 kilometres to the north at nearest point. 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 (Hamersley, 2018). 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 Hamersley (2018)

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 at the nearest weather station at Paraburdoo Aero of approximately 323 millimetres per year (BoM, 2019). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (Hamersley, 2018).

There are no permanent water courses or waterbodies within the application area (GIS Database). Seasonal drainage lines are common in the region and temporary local flooding occurs in the Pilbara region as a result of cyclonic activity and sporadic thunderstorms (Hamersley, 2018). 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 (2019)
Hamersley (2018)**

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 April 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 (WC2001/005) over the area under application (DPLH, 2019). This claim has been determined by the Federal Court on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are two 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.

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.

4. References

- BoM (2019) Bureau of Meteorology Website – Climate Data Online, Paraburdoo Aero (7185) Weather Station. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 29 April 2019).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DPIRD (2019) Declared Plants. Department of Primary Industries and Regional Development. <https://www.agric.wa.gov.au/pests-weeds-diseases/weeds/declared-plants> (Accessed 24 April 2019).
- DPLH (2019) Aboriginal Heritage Enquiry System. Department of Planning, Lands and Heritage. <http://maps.daa.wa.gov.au/AHIS/> (Accessed 24 April 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.
- 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>
- Hamersley (2018) Native Vegetation Clearing Permit Application - Supporting Report. Flora, Vegetation and Fauna Habitat Assessment at Bourne Highway. Hamersley Iron Pty Ltd, February 2018.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Trudgen (1988) A report on the flora and vegetation of the Port Kennedy area. Report prepared for Bowman Bishaw and Associates, by M.E. Trudgen, 1988.
- Payne A.L., Van Vreeswyk, A.M.E., Leighton, K.A., Pringle H.J., and Hennig, P., (1998) An Inventory and Condition Survey of the Sandstone-Yalgoo-Paynes Find area, Western Australia.

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.