



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 9133/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Habrok (Geko Pit) Pty Ltd

1.3. Property details

Property: Mining Lease 15/621
Miscellaneous Licence 15/355
Local Government Area: Shire of Coolgardie
Colloquial name: Geko Gold Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 8 April 2021

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description Beard vegetation associations have been mapped for the whole of Western Australia. There has been three Beard vegetation associations mapped within the application area (GIS Database):

8: Medium woodland; salmon gum & gimlet;
125: Bare areas; salt lakes; and
1413: Shrublands; acacia, casuarina & melaleuca thicket.

MWH Australia Pty Ltd (MWH) conducted a combined flora, vegetation and fauna survey over the Geko Gold Project Study Area (which included this clearing permit application area and a proposed pipeline corridor outside the scope of this application) from 12 to 15 April 2016 and 26 to 29 April 2016 (MWH, 2016). A total of 15 vegetation units were recorded:

AaApCp

Acacia aptaneura, *A. prainii* and *Callistemon phoeniceus* mid to low shrubland.

AaLfPg

Acacia aptaneura tall shrubland over *Leptospermum fastigiatum* and *Prostanthera grylloana* mid open shrubland.

ArAc

Eucalyptus? rigidula isolated clumps of trees over *Acacia resinimarginea*, *Allocasuarina campestris*, *Allocasuarina corniculata* and *Callitris preissii* tall shrubland to closed shrubland over *Beyeria sulcata* var. *sulcata* and/or *Myrtaceous* spp. low open to sparse shrubland over *Triodia scariosa* sparse hummock grassland.

ArTs

Eucalyptus griffithsii and/or *E. leptopoda* subsp. *leptopoda* open mallee woodland to isolated mallee trees over *Acacia resinimarginea* tall shrubland over *Phebalium filifolium* sparse low shrubland over *Triodia scariosa* hummock grassland.

EcEiSs

Eucalyptus celastroides subsp. *virella* woodland over *Eremophila ionantha* mid sparse shrubland over *Scaevola spinescens* low open shrubland.

EcMp

Eucalyptus clelandii (+/- *E. yilgarnensis*, *E. salmonophloia*, *E. urna*) open woodland over *Melaleuca pauperiflora* subsp. *fastigiata* scattered patches of closed shrubland (not continuous through the area) over *Scaevola spinescens*, *Alyxia buxifolia* and *Eremophila* spp. mid to low open shrubland.

EgAa

Eucalyptus griffithsii (*E. yilgarnensis*) low woodland to open woodland over *Acacia acuminata* (*Alyxia buxifolia*)

and *Allocasuarina helmsii*) tall to mid shrubland over *Senna artemisioides* and/or *Grevillea acuaria* low open shrubland.

EgApTs

Eucalyptus griffithsii low open woodland over *Acacia prainii* mid open shrubland over *Triodia scariosa* open hummock grassland.

EIAaMI

Eucalyptus longissima, *E. griffithsii* and *E. horistes* low open woodland over *Acacia acuminata* and *Melaleuca lanceolata* tall sparse shrubland.

EgArTs

Eucalyptus griffithsii (+/- *E. horistes* / *E. platycorys* / *E. rigidula*) mid mallee woodland over *Acacia resinimarginea* tall shrubland over *Beyeria sulcata* var. *sulcata* low open to sparse shrubland over *Triodia scariosa* hummock grassland.

EgEpEc

Mixed Eucalypts comprising *Eucalyptus griffithsii* and/or *E. platycorys*, and/or *E. celastroides* subsp. *virella* mid open mallee woodland over *Eremophila caperata*, *Acacia hemiteles* and *Scaevola spinescens* mid mixed shrubland with occasional patches of *Melaleuca ? hamata*.

EsAbAh

Eucalyptus salmonophloia low open woodland over *Acacia burkittii* tall sparse Shrubland over *Acacia hemiteles* mid sparse shrubland over *Scaevola spinescens*, *Alyxia buxifolia* and *Senna artemisioides* subsp. *filifolia* low open shrubland.

EsEcEyEgEm

Mixed Eucalypts comprising *Eucalyptus salubris* and/or *E. clelandii* and/or *E. yilgarnensis* and/or *E. griffithsii*, and/or *E. moderata* tall to mid open woodland over *Acacia* and *Eremophila* spp. mid open shrubland over *Scaevola spinescens* and *Olearia muelleri* mid to low open shrubland.

EyMp

Eucalyptus yilgarnensis low isolated trees over *Melaleuca phoidophylla* tall to low shrubland over *Fabaceae* sp. low sparse shrubland.

MhOiPr

Melaleuca hamata tall closed shrubland over *Olearia incana* and *Psydrax rigidula* low sparse shrubland.

Clearing Description

Geko Gold Project.

Habrok (Geko Pit) Pty Ltd proposes to clear up to 200 hectares of native vegetation within a boundary of approximately 658.5 hectares, for the purpose of mineral production and associated activities. The proposal is located approximately 25 kilometres north-west of Coolgardie in the Shire of Coolgardie.

Vegetation Condition

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);

to

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment

The vegetation condition was assessed by botanists from MWH (2016).

The majority of the application area on Mining Lease 15/621 is covered by the previously granted permit CPS 7104/1 which expired on 31 July 2019. The area of the haul road on Miscellaneous Licence 15/355 is covered by previously granted clearing permit 7386/1. Both of these permits are held by Golden Eagle Mining Ltd who are no longer the holder of these mining tenements.

3. Assessment of application against Clearing Principles

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

Comments

Proposal is not likely to be at variance to this Principle

The application area occurs within the Eastern Goldfields subregion of the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by gently undulating plains interrupted in the west with low hills and a series of large playa lakes in the western half (CALM, 2002). The vegetation is dominated by Mallees, *Acacia* thickets and shrub-heaths on sandplains, diverse *Eucalyptus* woodlands occur around salt lakes, on ranges, and in valets, and dwarf shrublands of samphire around salt lakes (CALM, 2002).

A flora and vegetation survey identified 15 vegetation units within the Geko Gold Project Study Area (MWH, 2016). None of these vegetation associations were considered to be a Threatened or Priority Ecological Community (MWH, 2016; GIS Database).

The flora survey recorded a total of 133 flora taxa from 25 families and 58 genera (MWH, 2016). The flora composition was considered typical of the Eastern Goldfields region with high numbers of eucalyptus and acacia species recorded (Talis Consultants, 2020). No species of Threatened flora have been recorded within

the application area (MWH, 2016; GIS Database). Eleven species of Priority flora were considered as 'possible' or 'likely' to occur within the study area, based on habitat preferences and known distributions (MWH, 2016). No species of priority flora were recorded during the flora survey, however, the Priority 3 species *Acacia cylindrica* was potentially identified but could not be conclusively identified due to a lack of flowering or fruiting material (MWH, 2016). This record was in the north of the application area along the area of the haul road in the ArAc vegetation association (Talis Consultants, 2020). There was 12.6 hectares of this vegetation association mapped within the greater survey area and the proposed clearing for a road is not likely to remove a significant amount of available habitat in the local area (MWH, 2016).

No introduced flora species were identified by MWH (2016) during the flora survey. Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to the biodiversity of the area as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

A fauna survey was undertaken over the application area and surrounding location in April 2016 and identified four habitat types within the application area (MWH, 2016). The faunal habitats and assemblage recorded from the study area are common and widespread within the Coolgardie bioregion. The fauna assemblage expected to occur within these habitats consists of largely generalist species that are widely distributed throughout the region (MWH 2016). There is evidence of Malleefowl utilising vegetation within the application area for breeding as several mounds have been identified within the application and surrounding areas (Talis Consultants, 2020).

The application area is not likely to comprise a greater diversity than nearby and similar areas within the bioregion and local area.

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

Methodology CALM (2002)
MWH (2016)
Talis Consultants (2020)

GIS Database:
- IBRA Australia
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers
- Threatened and Priority Flora

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

Comments **Proposal may be at variance to this Principle**

MWH (2016) conducted a field fauna survey of the application area in April 2016. The survey identified four broad fauna habitat types:

1. Eucalypt Woodlands;
2. Mallee Woodlands;
3. Shrublands; and
4. Vegetated Claypan

The faunal habitats and assemblage recorded from the study area are common and widespread within the Coolgardie bioregion. The fauna assemblage expected to occur within these habitats consists of largely generalist species that are widely distributed throughout the region (MWH 2016). However, the native vegetation within and in close proximity to the study area is known to form important habitat for the Malleefowl (*Leipoa ocellata* - VU).

Malleefowl mounds were identified from seven locations during the fauna survey (MWH, 2016). The mounds were all categorised as being inactive or disused/extinct at the time of survey (Talis Consultants, 2020). There were two mounds located within the application area, one of which was considered inactive and the other disused/extinct (Talis Consultants, 2020). The inactive mound appeared to have been active in recent years and may again be used by the birds in the upcoming breeding seasons. Vegetation in the vicinity of these mounds is likely to form important habitat for the species, particularly during the breeding season. The proposed haul road location has been designed to avoid clearing the location of the inactive mound (Talis Consultants, 2020). The previous clearing permit 7104 had a fauna management condition which required that no clearing occurred within 250 metres of this mound. Habrok (Geko Pit) Pty Ltd has committed to avoid the mound by 50 metres (Talis Consultants, 2020). Given there is suitable breeding habitat present, new mounds may be constructed within the application area. The underlying clearing permit 7386/1 has a fauna management condition which requires searches of the area to be cleared for Malleefowl mounds which are then avoided if clearing is occurring during the breeding season (1 September – 31 January). Potential impacts to Malleefowl may be minimised by the implementation of similar fauna management conditions to the

underlying clearing permits.

Although other habitats recorded may be suitable for other fauna of conservation significance (such as Fork-tailed Swift (*Apus pacificus*), Peregrine Falcon (*Falco peregrinus*), Rainbow Bee-eater (*Merops ornatus*), Central Long-eared Bat (*Nyctophilus timoriensis*)), none of these species are reliant on the habitats present in the application area. Additionally, none of these habitats form a significant proportion of the suitable habitat for these species within the region (MWH, 2016).

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

Methodology MWH (2016)
Talis Consultants (2020)

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

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

According to available databases there are no known records of Threatened flora within the application area (GIS Database). A search of available flora databases identified no Threatened flora species as occurring within a 10 kilometre radius of the application area (GIS Database).

MWH (2016) through their desktop search identified the potential for two Threatened flora species to occur within the study area: *Gastrolobium graniticum* and *Ricinocarpos brevis*. *Gastrolobium graniticum* is a tall, open and erect shrub favouring the bases of granite outcrops, particularly along drainage lines. *Ricinocarpos brevis* favours habitat such as rocky hillslopes and rock outcrops. None of the vegetation surveys over the application area has identified any Threatened flora (MWH, 2016). Both of these species are not considered likely to occur within the application area due to the lack of suitable habitat (MWH, 2016).

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

Methodology MWH (2016)

GIS Database:
- 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

A search of available databases revealed there are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). The flora surveys conducted over the application area have not identified any TECs (MWH, 2016). There are no known TECs situated within 50 kilometres of the application area (MWH, 2016; GIS Database).

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

Methodology MWH (2016)

GIS Database:
- Threatened Ecological Sites Buffered

(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 Coolgardie Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 97.96% of the pre-European vegetation still exists in the Coolgardie Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation associations 8, 125 and 1413 (GIS Database). These vegetation associations have not been extensively cleared as over 92% of the pre-European extent of each of these vegetation associations remains uncleared at a bioregional level (Government of Western Australia, 2019). The permit area does not contain any remnants nor does it form part of any remnants in the local area (GIS Database).

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

Methodology Government of Western Australia (2019)

GIS Database:

- IBRA Australia
- Imagery
- 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 (MWH, 2016; GIS Database). There are two vegetated claypans located in the northwest and east of the application area (GIS Database). These claypans are not likely to support standing water for long periods and are not typical claypans of the region that support samphires (*Tecticornia sp.*) (Talis Consultants, 2020). The vegetation units associated with the claypans (AaApCp and EyMp) support the species *Callistemon phoeniceus* and *Melaleuca phoidophylla* which are indicative of riparian environments (Talis Consultants, 2020). The majority of the claypan in the east of the application area has been excluded from the permit boundary (Talis Consultants, 2020). The southern area of this claypan has already been cleared and an evaporation pond constructed at the location (GIS Database).

Based on the above, the proposed clearing is at variance to this Principle. Potential impacts to riparian vegetation may be minimised through the implementation of a vegetation management condition.

Methodology MWH (2016)
Talis Consultants (2020)

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

(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 has been mapped as occurring within the Doney, Rowles, Joseph, Coolgardie and Johnson land systems (DPIRD, 2021). The majority of the application area lies within the Rowles land system (DPIRD, 2021).

The Doney and Joseph land systems are generally not prone to erosion (DPIRD, 2021).

Where not protected by a stony mantle, footslopes and valley floors within the Coolgardie system are susceptible to water erosion, particularly in areas where perennial cover is substantially reduced or the soil surface is disturbed (DPIRD, 2021). There is only a small portion of this land system in the west of the application area (DPIRD, 2021).

The drainage tracts of the Johnson land system are mildly susceptible to erosion and the obstruction of natural water flows can cause water starvation and loss of vigour in vegetation downslope (DPIRD, 2021). Disturbance of the soil surface on this unit is also likely to initiate erosion (DPIRD, 2021). A small section of the proposed haul road (<1.5 kilometres) intersects the Johnson land system.

The Rowles land system is described as freshwater lakes, lignum swamps and fringing alluvial plains supporting melaleuca thickets (DPIRD, 2021). These fresh water lakes and swamps are subject to seasonal or intermittent flooding (DPIRD, 2021). The alluvial plains and lake margins of this land system are vulnerable to degradation in the form of soil erosion if there is vegetation loss or soil disturbance (DPIRD, 2021). Under seasonal flooding, this has the potential to result in sediments being mobilised and cause siltation of lakes (DPIRD, 2021).

Potential impacts from soil erosion may be minimised by the implementation of a staged clearing condition. The intent of the condition is to require any areas that are cleared are utilised within 3 months of the clearing, which will minimise the amount of areas cleared which do not have mining activities occurring.

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

Methodology DPIRD (2021)

(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

The application area is not located within any conservation areas (GIS Database). The nearest conservation

area is the Kangaroo Hills Timber Reserve, located approximately 14 kilometres south-east of the application area (GIS Database).

The application area is not expected to have a significant impact on the Kangaroo Hills Timber Reserve. The Kangaroo Hills Timber Reserve is an area of approximately 13,614.8 hectares and the vegetation types and fauna habitats are well represented within the area (GIS Database).

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 may be at variance to this Principle

There are no permanent watercourses in the application area (GIS Database). There are several drainage lines and two vegetated claypans within the application area which only flow during and following substantial rainfall (Talis Consultants, 2020; GIS Database). The surface water in the application area is likely to occur as sheet flow and run off from the slightly elevated centre of the application area to the two claypan areas in the east and west (Talis Consultants, 2020). The alluvial plains and lake margins of the land system which includes these claypans are vulnerable to degradation in the form of soil erosion if there is vegetation loss or soil disturbance (DPIRD, 2021). Under seasonal flooding, this has the potential to result in sediments being mobilised and cause siltation of lakes (DPIRD, 2021). Potential impacts from soil erosion may be minimised by the implementation of a staged clearing condition. The intent of the condition is to require any areas that are cleared are utilised within 3 months of the clearing, which will minimise the amount of areas cleared which do not have mining activities occurring.

The available databases show that the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The application area has saline (14,000 - 35,000 milligrams/Litre Total Dissolved Solids (TDS)) groundwater (GIS Database). The proposed clearing is unlikely to have an impact on groundwater quality in the local area.

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

Methodology DPRID (2021)
Talis Consultants (2020)

GIS Database:
- Groundwater Salinity, Statewide
- 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 269.6 millimetres per year (BoM, 2021). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall.

There are no permanent water courses or waterbodies within the application area (GIS Database). There are two claypans within the application area which only fill following significant rainfall events (Talis Consultants, 2020; GIS Database). The proposed clearing is not likely to increase the incidence or intensity of the flooding in these claypan areas.

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

Methodology BoM (2021)
Talis Consultants (2020)

GIS Database:
- Hydrography, linear

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

Comments

The clearing permit application was advertised on 28 December 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 two native title claims over the area under application (DPLH, 2021). These claims have been registered with the National Native Title Tribunal on behalf of the claimant groups. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2021). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

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

Methodology DPLH (2021)

4. References

- BoM (2021) Bureau of Meteorology Website – Climate Data Online, Coolgardie. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 31 March 2021).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DPLH (2021) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 22 March 2021).
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- DPIRD (2021) Advice received in relation to Clearing Permit Application CPS 9133/1. Office of the Commissioner of Soil and Land Conservation, Department of Primary Industries and Regional Development, Western Australia, January 2021.
- Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- MWH (2016) Geko Level 1 Flora, Vegetation and Fauna Assessment and Targeted Survey for Malleefowl (*Leipoa ocellata*). Report prepared by MWH Australia Pty Ltd for Golden Eagle Mining Ltd, August 2016.
- Talis Consultants (2020) Geko Project NVCP Supporting Document. Report prepared by Talis Consultants for Habrok (Geko Pit) Pty Ltd, December 2020.

5. Glossary

Acronyms:

BC Act	<i>Biodiversity Conservation Act 2016</i> , Western Australia
BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DAWE	Department of Agriculture, Water and the Environment, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DoEE	Department of the Environment and Energy (now DAWE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPA	Environmental Protection Authority, 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.