Government of Western Australia
Department of Mines, Industry Regulation and Safety

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8786/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Mid-West Tungsten Pty Ltd**

1.3. Property details

Property: Mining Lease 59/386
Mining Lease 59/387
Mining Lease 59/425
Miscellaneous Licence 59/161
Miscellaneous Licence 59/162
Local Government Area: Shire of Perenjori
Colloquial name: Mt Mulgine Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Refuse
Decision Date: 24 September 2020
Reasons for Decision

The clearing permit application was received on 08 January 2020 and has been assessed against the clearing principles, planning instruments, and other matters in accordance with section 51O of the *Environmental Protection Act 1986* (EP Act). The initial assessment of the application determined that the proposed clearing would likely result in significant impacts to conservation significant flora and fauna, and was therefore unlikely to be considered acceptable. The applicant was given the opportunity to provide additional information and/or modify their clearing proposal in order to reduce the environmental impacts. In response, Mid-West Tungsten Pty Ltd provided additional information and biological survey reports. The additional information and survey reports were taken into consideration when making the decision on this application. Mid-West Tungsten Pty Ltd did not modify their application area to avoid or further minimise environmental impacts.

The proponent proposed the following mitigation and management strategies to reduce indirect impacts to priority flora species adjacent to the application area:

- Utilising existing roads and station tracks to reduce the impact on vegetation;
- Adherence to internal procedures for clearing;
- Progressive rehabilitation utilising topsoil stockpiles and local provenance seeds;
- Using water carts and dust suppressants to minimse dust generation;
- Control of vehicle speeds;
- Induction and training processes;
- A site environmental officer or delegate being present during clearing operations to ensure clearing remains within the defined limits; and
- Management and monitoring impacts on priority flora within the application area.

It has been concluded that the proposed clearing is at variance to Principles (a), (f) and (h), may be at variance to Principles (b), (c) and (g), is not likely to be at variance to Principles (d), (i) and (j) and not at variance to Principle (e).

The Delegated Officer determined that the application area contains vegetation that is important for the survival of the endemic priority one flora species *Acacia sulcaticaulis* and that the proposed clearing may result in the listing of the species as Threatened under the *Biodiversity Conservation Act* 2016. The Delegated Officer considered whether the significant residual impacts to *Acacia sulcaticaulis* could be offset in accordance with the WA Environmental Offsets Policy (Government of Western Australia, 2011) and WA Environmental Offsets Guidelines (Government of Western Australia, 2014). However, it was determined that offsets were not appropriate in this circumstance, based on the species being confined to the proponent's mining tenure, limited natural area restoration, revegetation or rehabilitation options outside of the project area and the inability to apply research offsets

under Part V of the EP Act. Therefore the proposed clearing is refused.

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:
355: Shrublands; bowgada and jam scrub with scattered York gum and red mallee;
420: Shrublands; bowgada and jam scrub; and
434: Shrublands; *Acacia quadrimarginea* and jam scrub with scattered York gum and *Allocasuarina huegeliana*. (GIS Database).

A flora and vegetation survey was conducted over the application area by Animal Plant Mineral (APM) during November, 2016 and April to May, 2018. The following nine vegetation associations were recorded within the application area (APM, 2018a):

- *Eucalyptus loxophleba* subsp. *supralaevis* open woodland on mixed *Acacia andrewsii, Enchylaena tomentosa, Maireana georgei* and *Ptilotus obovatus* shrubland over *Austrostipa variabilis* grassland.
- *Eucalyptus loxophleba* subsp. *supralaevis* and *Acacia ramulosa* woodland over *Maireana trichoptera, Rhagodia drummondii* and *Sclerolaena diacantha* shrubland over *Austrostipa elegantissima* grassland.
- *Acacia ramulosa* and *Acacia assimilis* woodland over *Acacia tetragonophylla, Melaleuca eleuterostachya, Melaleuca stereophloia* and *Allocasuarina dielsiana* shrubs.
- Mixed shrubland of *Pimelea avonensis, Hybanthus floribundus* subsp. *curvifolius, Acacia acuminata, Eremophila granitica* and *Cryptandra imbricata*.
- Mixed shrublands with *Eremophila decipiens* subsp. *decipiens, Ptilotus helipteroides* and *Senna artemisioides* subsp. *filifolia* over *Eriachne pulchella* grassland.
- *Allocasuarina dielsiana* and *Acacia acuminata* open woodland over *Melaleuca eleuterostachya, Eremophila oldfieldii* and *Thyridolepis multiculmis* shrubland.
- *Melaleuca stereophloia* and *Allocasuarina acutivalvis* subsp. *prinsepiana* open woodland over *Eremophila georgei, Grevillea didymobotrya* subsp. *didymobotrya* and *Acacia acuminata* shrubland.
- *Acacia latior* dominated woodlands over *Gastrolobium laytonii, Calycopeplus paucifolius* and *Philotheca deserti* low open shrublands over *Eriachne benthamii* grass.
- *Allocasuarina campestris* dominated woodlands over *Micromyrtus* sp. A, *Cryptandra* sp. and *Calycopeplus paucifolius* low open shrubland over *Eriachne pulchella* low open grassland.

An additional survey of the wider project area was conducted by Spectrum Ecology (2020a) during September 2019 and March 2020, with seven vegetation units recorded within the application area:

Flats

- **ElAr:** *Eucalyptus loxophleba* subsp. *supralaevis* or *Eucalyptus loxophleba* subsp. *lissophloia* low open woodland over *Acacia ramulosa* var. *ramulosa* tall open shrubland over *Ptilotus obovatus, Scaevola spinescens* low isolated shrubs.
- **ElAt:** *Eucalyptus loxophleba* subsp. *supralaevis* low woodland over *Acacia tetragonophylla, Allocasuarina dielsiana, Acacia ramulosa* var. *ramulosa* tall open shrubland over *Dodonaea inaequifolia, Acacia acanthoclada* subsp. *glaucescens* mid-low sparse shrubland.
- **AaAr:** *Allocasuarina acutivalvis* subsp. *prinsepiana* tall sparse shrubland over *Acacia ramulosa* var. *ramulosa* (+/- *Micromyrtus acuta* (P3)) mid open shrubland over *Austrostipa elegantissima* isolated tussock grasses.
- **EsTh:** *Eucalyptus salubris* low open woodland over *Tecticornia* ?*halocnemoides* low sparse shrubland.

Slopes, Hills and Crests

- **AdAa:** *Allocasuarina dielsiana* (+/- *Acacia umbraculiformis*) low open woodland over *Acacia acuminata, Allocasuarina tessellata* (P3)*, Acacia karina* (P1) tall open shrubland over *Borya sphaerocephala* low sparse shrubland.
- **AsCp:** *Acacia sulcaticaulis* (P1) tall open shrubland over *Calycopeplus paucifolius* mid sparse shrubland over *Philotheca deserti* subsp. *deserti* low sparse shrubland.
- **AdAt:** *Acacia duriuscula* or *Allocasuarina tessellata* (P3) tall open shrubland.

Clearing Description

Mount Mulgine Project.
Mid-West Tungsten Pty Ltd proposes to clear up to 201.8 hectares of native vegetation within a boundary of approximately 474.4 hectares, for the purpose of mineral production and associated activities. The project is

located approximately 15 kilometres north-east of Rothsay, within the Shire of Perenjori.

Vegetation Condition

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

To:

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).

Comment

The vegetation condition was derived from vegetation surveys conducted by APM (2018a) and Spectrum Ecology (2020a).

The proposed clearing is for the Mount Mulgine Project, which will comprise of open pit mining, processing facilities, Waste Rock Landforms, Run-of-Mine pad, Tailings Storage Facility and support facilities including offices, workshops, camp and access roads. The proposed development envelope of 201.8 hectares within the application area of 474.4 hectares is shown in Figure 1 below.

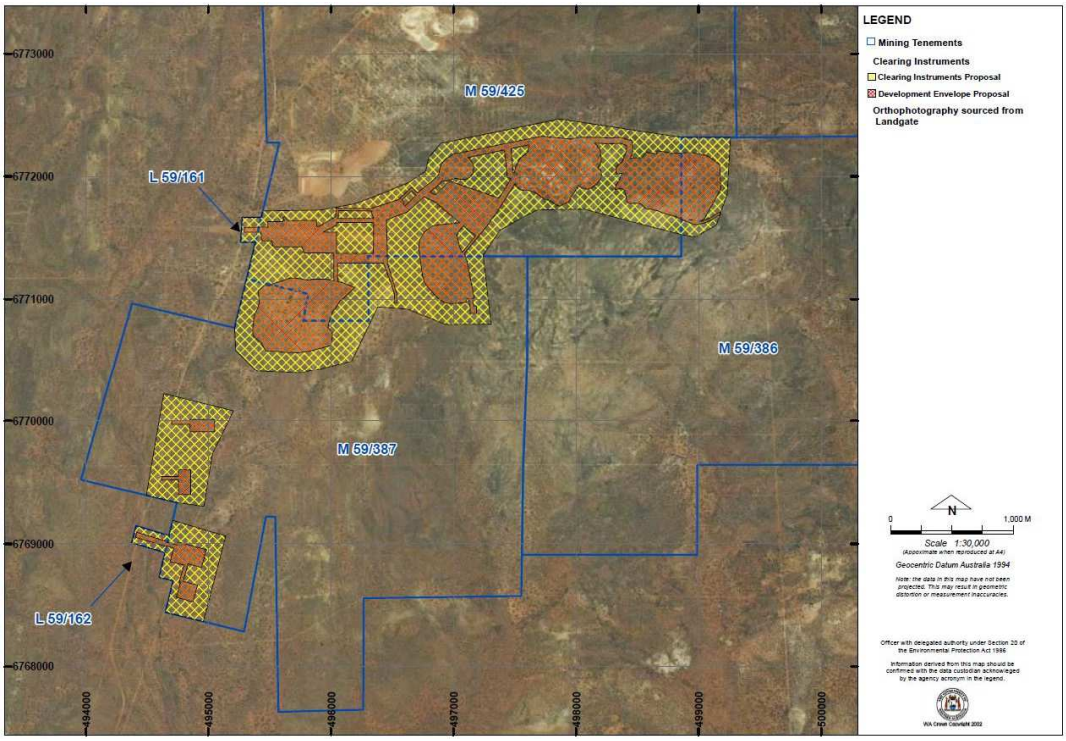

Figure 1. Proposed clearing area (yellow cross-hatching) and development envelope (red cross-hatching).

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 at variance to this Principle

The clearing permit application area is located within the Tallering subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Yalgoo Bioregion (GIS Database). The Yalgoo Bioregion is characterised by low woodlands to open woodlands of *Eucalyptus*, *Acacia* and *Callitris* on red sandy plains of the Western Yilgarn Craton and southern Carnarvon Basin. Mulga, *Callitris – Eucalyptus salubris* (gimlet) and bowgada open woodlands and scrubs on earth to sandy-earth plains in the western Yilgarn Craton (CALM, 2002).

A number of flora and vegetation surveys have been conducted within the application area and surrounding areas, including a survey conducted by APM (2018a) during November 2016 and April to May 2018 and a survey of the wider project area conducted by Spectrum Ecology (2020a) during September 2019 and March 2020. Vegetation within the application area is dominated by *Eucalyptus*, *Acacia* and *Allocasuarina* woodlands and shrublands (APM, 2018a; Spectrum Ecology, 2020a). 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 (APM, 2018a; GIS Database; Spectrum Ecology, 2020a). Three vegetation units, AdAa, AsCp and AdAt, described by Spectrum Ecology (2020a) are considered to have local and regional significance due to their association with restricted conservation significant flora, restricted distribution, impacts of threatening process and that they may maintain a significant ecosystem. The proposed clearing of vegetation unit AdAa represents a direct impact of 4.42% (33.0 hectares) and 11.23% (83.8 hectares) to the total mapped extent within the disturbance envelope and application area, respectively (Spectrum Ecology, 2020a; Tungsten Mining NL, 2020b). The proposed clearing of vegetation unit AdAt represents a direct impact of 3.98% (8.5 hectares)

and 9.65% (20.6 hectares) to the total mapped extent within the disturbance envelope and application area, respectively (Spectrum Ecology, 2020a; Tungsten Mining NL, 2020b). The proposed clearing of vegetation unit AsCp represents a direct impact of 19.00% (47.5 hectares) and 34.44% (86.1 hectares) to the total mapped extent within the disturbance envelope and application area, respectively (Spectrum Ecology, 2020a; Tungsten Mining NL, 2020b). The impact to AsCp is considered to be significant both when considering the proposed clearing within the development envelope and the application area (DBCA, 2020b). It is also likely that the impact to this vegetation unit will be larger due to indirect impacts such as fragmentation and increased edge effects.

A flora and vegetation survey undertaken by APM (2018a) in November 2016 recorded 117 flora taxa from 79 genera, and included 58 annual species. A flora and vegetation survey undertaken by Spectrum Ecology (2020a) across the wider project area identified a total of 285 plant taxa, representative of 59 families and 145 genera, including 15 introduced species, and 40% being annual species. Eleven conservation significant flora species were recorded during the field surveys of the application area; *Acacia karina* (P1), *Acacia sulcaticaulis* (P1), *Lepidosperma* sp. Blue Hills (P1), *Allocasuarina tessellata* (P3), *Drummondita fulva* (P3), *Grevillea scabrida* (P3), *Grevillea subtiliflora* (P3), *Micromyrtus acuta* (P3), *Micromyrtus trudgenii* (P3), *Persoonia pentasticha* (P3) and *Rhodanthe collina* (P3) (APM, 2018a, APM 2018b; Spectrum Ecology, 2020a). The majority of the recorded conservation significant flora species are endemic to the Tallering IBRA subregion (Western Australian Herbarium, 1998-). However, the regional impacts for all priority taxa recorded within the application area, excluding *Acacia sulcaticaulis*, are less than 10%, known from five or more locations and at least three of those locations are found greater than ten kilometres from the project site (DBCA, 2020a). As such, for the species recorded, excluding *Acacia sucaticaulis*, the proposed clearing is not considered to be significant at the species level and is unlikely to change the conservation status. However, the potential impacts to recorded priority taxa at the local level is greater and may be considered to be significant (DBCA, 2020a). The targeted flora surveys conducted by APM (2018a; 2018b) and Spectrum Ecology (2020a) recorded:

- 1,442 *Acacia karina* (P1) in the application area, representing a 9.41% impact at a local level;
- 1,104 *Lepidosperma* sp. Blue Hills (P1) in the application area, representing a 9.01% impact at a local level;
- 3,333 *Allocasuarina tessellata* (P3) in the application area, representing a 15.01% impact at a local level;
- 36 *Drummondita fulva* (P3) in the application area, representing a 9.13% impact at a local level;
- 1,666 *Grevillea scabrida* (P3) in the application area, representing a 13.98% impact at a local level;
- 462 *Grevillea subtiliflora* (P3) in the application area, representing a 23.73% impact at a local level;
- 97 *Micromyrtus acuta* (P3) in the application area, representing a 1.90% impact at a local level;
- 1,048 *Micromyrtus trudgenii* (P3) in the application area, representing a 85.13% impact at a local level; and
- 106 *Persoonia pentasticha* (P3) in the application area, representing a 14.11% impact at a local level (Tungsten Mining NL, 2020b).

For the majority of the priority flora species, these impacts are reduced to a direct impact of under 10% of the local population if the clearing was confined to the development envelope and would be unlikely to be a significant impact (DBCA, 2020b). However, impacts to *Drummondita fulva* (9.13%), *Grevillea subtiliflora* (13.10%) and *Micromyrtus trudgenii* (36.96%) may still be considered significant at a local level, especially if additional indirect impacts cannot be avoided (DBCA, 2020b).

Acacia sulcaticaulis has a highly restricted distribution range and is only known from the Mt Mulgine area (Western Australian Herbarium, 1998-). *Acacia sulcaticaulis* is considered to have specific habitat requirements, resulting in a highly restricted area of occurrence (DBCA, 2020a). Recent efforts to locate new populations or areas of occurrence have been unsuccessful (DBCA, 2020a). A number of targeted field studies have been undertaken to determine the population extent and number, and it has been determined that the entire known population of the species exists within the application area and wider project area (limited to M 59/425, M 59/386 and M 59/387) (APM 2018a; APM 2018b; JBBC, 2018; Spectrum Ecology, 2020a). As this species has a restricted extent of occurrence, is known from one location and, as a result of this proposal, will have a demonstrated decline in plant numbers and habitat quality, it is currently under consideration for nomination as a threatened species (DBCA, 2020a). Targeted searches have counted 23,328 individuals, with this extrapolated to an estimated total population of 90,600 individuals (JBBC, 2018). It is currently estimated that approximately 7,797 individuals, representing 8.6% of the total species population, exists within the application area (Tungsten Mining NL, 2020a). However, it is expected that approximately 4,355 individuals, representing 4.8% of the species population, will be directly impacted by the proposed clearing (JBBC, 2018). Although these estimates indicate that approximately 4.8-8.6% of the known individuals of *Acacia sulcaticaulis* will be impacted as a result of the clearing, due to the variation in methodology and survey intensity by different environmental consultants there remains uncertainty around the actual impacts to the species (APM 2018a; APM 2018b; DBCA, 2020b, JBBC, 2018; Spectrum Ecology, 2020a). There is also the possibility of indirect impacts to the species as a result of the proposed clearing such as fragmentation, increased edge effects, dust and altered hydrology (DBCA, 2020a). As the species represents the dominant structure within vegetation unit AsCp mapped by Spectrum Ecology (2020a), and it was determined that 98.5% of all known *Acacia sulcaticaulis* records exist within this vegetation unit, there may be as much as 19.00-34.44% of this species cleared as AsCp represents the critical habitat for this species. However, advice from DBCA (2020b) noted that there is significant variation in plant density across the species range and without further studies conducted into the varying density of *Acacia sulcaticaulis*, the impact to the species as a result of the proposed clearing remains uncertain. The proposed clearing of *Acacia sulcaticaulis* and its critical habitat is considered

to represent a significant residual impact as the proposed impacts may cause the species to become rare or endangered, and as a result would need to be offset (Government of Western Australia, 2014).d

Mid-West Tungsten Pty Ltd have not modified their proposal to avoid or further minimise potential impacts to *Acacia sulcaticaulis* or its critical habitat. Due to the lack of adequate avoidance and mitigation measures proposed; limited distribution of *Acacia sulcaticaulis*, being confined to the Mt Mulgine project tenure; and the restriction on research projects as offsets to approvals under Part IV of the *Environmental Protection 1986* (EP Act) only, the proposed clearing is not considered to be environmentally acceptable as the significant residual impacts cannot be addressed through an offset.

Four species of weeds, *Bromus rubens* (Red Brome), *Silene nocturna* (Mediterranean Catchfly), *Vulpia myuros* (Rat's Tail Fescue) and *Solanum nigrum* (Black Berry Nightshade), were recorded during the field survey (APM, 2018a). None of these species are listed as a Declared Pest under the *Biosecurity and Agriculture Management Act 2007* (BAM Act).

A desktop fauna assessment identified 55 reptile, 29 mammal, 148 bird and five amphibian species that have previously been recorded within 40 kilometres of the application area (Spectrum Ecology 2020b). The application area is expected to host a range of fauna across a mosaic of micro habitats due to highly variable soil types (APM, 2018a). During the field survey two mammal, 38 bird and 14 reptile species were recorded from within the application area and surrounding areas (Spectrum Ecology 2020b). The desktop assessment identified thirteen conservation significant fauna species as previously being recorded within 40 kilometres of the application area, however five of these were identified as having a low likelihood of occurring due to a lack of suitable habitat (Spectrum Ecology 2020b). Eight conservation significant fauna species were identified as potentially occurring due to the presence of suitable habitat including: Western Brush Wallaby, *Notamacropus irma* (P4); Malleefowl, *Leipoa ocellata* (VU at state and federal level); Peregrine Falcon, *Falco peregrinus* (OS at State level); Gilled Slender Blue-tongue, *Cyclodomorphus branchialis* (VU at State level); Western Spiny-tailed Skink, *Egernia stokesii badia* (VU at state and EN at federal level); Gutha Pintharuka Shield-backed Trapdoor Spider, *Idiosoma gutharuka* (P1); Northern Shield-backed Trapdoor Spider, *Idiosoma clypeatum* (P3); and Coolgardie Shield-backed Trapdoor Spider, *Idiosoma intermedium* (P3) (Spectrum Ecology, 2020b). A total of six conservation significant fauna species were recorded during the field assessment of the application area and surrounding areas including; Gilled Slender Blue-tongue, Malleefowl, Peregrine Falcon, *Idiosoma clypeatum*, *Idiosoma intermedium* and *Idiosoma gutharuka* (APM 2018a; Spectrum Ecology, 2020b). In addition to these, secondary evidence (scats) from the Western Spiny-tailed Skink was also recorded 200 metres outside the application area (Spectrum Ecology, 2020b). It is unlikely that the proposed clearing will have a significant impact on the Peregrine Falcon due to the highly mobile nature of this avian fauna species. Potential impacts to the Gilled Slender Blue-tongue, Malleefowl and Western Spiny-tailed Skink cannot be determined due to a lack of targeted work being conducted within the application area to determine the presence of resident populations.

APM (2018a) identified four locations with Shield-backed Trapdoor Spiders present, however did not identify the populations to species level. These locations were not revisited, however, a survey by Spectrum Ecology identified three species of trap-door spider within and adjacent to application area, Gutha Pintharuka Shield-backed Trapdoor Spider, *Idiosoma gutharuka* (P1); Northern Shield-backed Trapdoor Spider, *Idiosoma clypeatum* (P3); and Coolgardie Shield-backed Trapdoor Spider, *Idiosoma intermedium* (P3) (Spectrum Ecology, 2020b). The location at which *Idiosoma gutharuka* was recorded has been excluded from the application area and the species is unlikely to be directly impacted by the proposed clearing. *Idiosoma clypeatum* and *Idiosoma intermedium* were both recorded within the application area, however both were also recorded from multiple locations outside of the application area and the impacts of the proposed clearing are not expected to be significant at species level.

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

Methodology

APM (2018a)
APM (2018b)
CALM (2002)
DBCA (2020a)
DBCA (2020b)
Government of Western Australia (2014)
JBBC (2018)
Spectrum Ecology (2020a)
Spectrum Ecology (2020b)
Tungsten Mining NL (2020a)
Tungsten Mining NL (2020b)
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

The following four fauna habitats were recorded within the application area during the November 2016 field assessment (APM, 2018a):

- *Eucalyptus* open woodland over mixed shrubland over *Austrostipa variabilis* and/or *Austrostipa elegantissima* grassland on sandy loam soil;
- Mixed shrubland over *Austrostipa scabra* grassland on sandy loam soil;
- *Acacia ramulosa* and/or *Acacia latior* woodland over mixed shrubland on sandy loam soils and/or *Eriachne benthamii* grass with exposed aggregate; and
- *Allocasuarina dielsiana* and/or *Allocasuarina acutivalvis* subsp. *prinsepiana* open woodland over mixed shrubland, and in some cases *Eriachne pulchella* low open grassland on sandy loam soils with large coarse fragments.

APM (2018a) described the application area as having highly variable soil types and hosting a diverse range of fauna across a mosaic of micro habitats. For example, the application area provides habitat for a variety of reptiles that represent different assemblages, such as: tree dwelling species that refuge under bark; tree dwelling species that occupy tall shrubland; burrowing species that can be found under stumps and fallen litter and logs; and species that forage in open areas but retreat to loamy soils to burrow (APM, 2018a). Other species of reptiles may be attracted to the litter and detritus that collect around the base of the Eucalypt species and hollow logs or crevices among rocky outcrops provide habitat for additional species (APM, 2018a).

A follow up fauna survey conducted in October 2019 by Spectrum Ecology (2020b) identified five major fauna habitat types within the application area including:

- **Mixed shrubland:** dominated by a mixture of tall sparse *Acacia* shrubs, in particular *Acacia ramulosa* over isolated *Eremophila*, *Hakea* and *Sida* shrubs, with generally very sparse ground cover with some fallen timber and minimal leaf litter restricted to underneath some shrubs. The substrate consisted of loam clay to sandy clay soils with some pebbles and rocks present in some areas;
- **Open Eucalypt woodland:** very tall open Eucalypt woodland with sparse lower mixed shrubs. The substrate consists of clay soils with leaf litter restricted to under dense vegetation clumps. Wood litter can be present and can consist of dead trees and large branches which provide shelter for fauna species;
- **Granite outcropping:** dominated by low to moderately tall dense mixed myrtaceous and *Acacia* shrubs. The characteristic feature of this habitat type is the emergent granites which is mixed in with quartz, supporting a unique vegetation composition. The substrate consists of loam clay soils with exposed quartz and granite pebbles forming a sparse mantle;
- **Basalt hills:** sparse low shrubland with scattered taller shrubs and minimal leaf litter and woody debris. The substrate is skeletal course loamy soils with abundant pebbles, stones, rocks and boulders;
- **Stony hillslope shrubland:** low moderately dense and relatively homogenous shrubland. The substrate consists of loam clay soils with exposed pebbles and rocks forming a mantle. Fallen timber and leaf litter is almost absent with small amounts remaining under denser isolated shrubs; and
- Cleared areas.

Eight conservation significant fauna species were identified as potentially occurring due to the presence of suitable habitat, including: Western Brush Wallaby, *Notamacropus irma* (P4); Malleefowl, *Leipoa ocellata* (VU at state and federal level); Peregrine Falcon, *Falco peregrinus* (OS at State level); Gilled Slender Blue-tongue, *Cyclodomorphus branchialis* (VU at State level); Western Spiny-tailed Skink, *Egernia stokesii badia* (VU at state and EN federal level); Gutha Pintharuka Shield-backed Trapdoor Spider, *Idiosoma gutharuka* (P1); Northern Shield-backed Trapdoor Spider, *Idiosoma clypeatum* (P3); and Coolgardie Shield-backed Trapdoor Spider, *Idiosoma intermedium* (P3) (Spectrum Ecology, 2020b). Six of these were recorded during the field assessments of the application area and surrounding areas including; Gilled Slender Blue-tongue, Malleefowl, Peregrine Falcon, *Idiosoma clypeatum*, *Idiosoma intermedium* and *Idiosoma gutharuka* (APM 2018a; Spectrum Ecology, 2020b). In addition to these, secondary evidence (scats) from the Western Spiny-tailed Skink was also recorded 200 metres outside the application area (Spectrum Ecology, 2020b). Although suitable habitat exists within the application area, the significance of the habitat present to Gilled Slender Blue-tongue, Malleefowl and Western Spiny-tailed Skink cannot be determined due to limited targeted work being conducted within the application area to determine the presence of, and impacts to, critical habitat being utilised by these species.

Idiosoma gutharuka (P1) is only known from one other population located approximately 100 kilometres away, however the local population at Mt Mulgine was located outside of the application area in habitat described as south-west facing hillslope dominated by dense *Allocasuarina* tall shrubs on granite rocks with some quartzitic pebbles and stone (Spectrum Ecology, 2020b). *Idiosoma gutharuka* is not likely to be directly impacted by the proposed clearing. *Idiosoma clypeatum* (P3), recorded within the mixed shrubland and granitic outcropping habitat types, and *Idiosoma intermedium* (P3), recorded within the mixed shrubland, basalt hill, stony hillslope

shrubland and granitic outcropping habitat types, were located within the application area and are expected to be impacted by the proposed clearing (Spectrum Ecology, 2020b). The level 1 and targeted fauna survey conducted by Spectrum Ecology (2020b) in October 2019 recorded 23 burrows of *Idiosoma clypeatum*, with one burrow, representing one of the three locations of the species within the wider project area to be impacted by the proposed clearing, and six burrows of *Idiosoma intermedium*, with three burrows, representing two of the three locations of the species within the wider project area to be impacted by the proposed clearing. The proposed clearing is not expected to have a significant impact on the local or regional habitat for *Idiosoma clypeatum* or *Idiosoma intermedium* as suitable habitat extends outside of the application area and populations exist in the local area outside of the application area.

Although habitat types extend outside of the application area, the proposed clearing could potentially remove critical habitat for threatened fauna species including the Gilled Slender Blue-tongue, Malleefowl and Western Spiny-tailed Skink. Based on the above, the proposed clearing may be at variance to this Principle.

Methodology
APM (2018a)
Spectrum Ecology (2020b)

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 may 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 (APM, 2018a; APM, 2018b; Spectrum Ecology, 2020a; Spectrum Ecology, 2020c; Terratree, 2014). However, records of *Stylidium scintillans* (T) exist within 1.3 kilometres of the application area and the application area has the potential to support additional populations of the species. A survey by Terratree (2014) identified four areas of suitable habitat within the application area, however as the survey was conducted during September 2013 after a relatively dry winter and outside of the flowering time for this species, their presence within the application area could not be determined. Additional surveys by Spectrum Ecology (2020c) conducted during September 2019 and March 2020 identified other areas of suitable habitat and did not record *Stylidium scintillans* (T) during targeted searches. Three out of the four areas previously identified by Terratree (2014) as suitable habitat were not considered to be suitable by Spectrum Ecology (2020c), however one area considered to be sub-optimal habitat was not targeted during the field assessment and the presence of *Stylidium scintillans* (T) in this area was not determined.

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

Methodology
APM (2018a)
APM (2018b)
Spectrum Ecology (2020a)
Spectrum Ecology (2020c)
Terratree (2014)

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 (APM, 2018a; Spectrum Ecology, 2020a).

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

Methodology
APM (2018a)
Spectrum Ecology (2020a)

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 Yalgoo Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 97% of the pre-European vegetation still exists in the IBRA Yalgoo Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation associations 355: shrublands; bowgada and jam scrub with scattered York gum and red mallee; 420: shrublands; bowgada and jam scrub; and 434: shrublands; *Acacia quadrimarginea* and jam scrub with scattered York gum and *Allocasuarina huegeliana* (GIS Database). Approximately 95% to 100% 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 – Yalgoo	5,057,325	4,923,840	~97	Least Concern	~31
Beard vegetation associations – WA					
355	61,682	58,773	~95	Least Concern	~43
420	859,632	830,216	~96	Least Concern	~14
434	1,386	1,386	~100	Least Concern	~85
Beard vegetation associations – Yalgoo Bioregion					
355	55,019	54,691	~99	Least Concern	~44
420	621,396	620,265	~99	Least Concern	~16
434	1,386	1,386	~100	Least Concern	~85

* 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 (GIS Database). Several minor, non-perennial watercourses pass through the application area (GIS Database). Spectrum Ecology (2020a) recorded one vegetation unit, ElAt, associated with drainage lines.

Based on the above, the proposed clearing is at variance to this Principle. However, the drainage lines present and the associated vegetation unit ElAt are not considered to be of local or regional significance and extend beyond the application area.

Methodology

Spectrum Ecology (2020a)

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 Graves, Moriarty, Norie and Yalluwin 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 Graves land system is described as basalt and greenstone rises and low hills, supporting eucalypt woodlands with prominent saltbush and bluebush understoreys. Alluvial plains are susceptible to water erosion where perennial shrub cover is substantially reduced or the soil surface is disturbed (Payne et al., 1998).

The Moriarty land system consists of low greenstone rises and stony plains supporting halophytic and acacia shrublands with patchy eucalypt overstoreys. Slopes of low rises without protective stone mantles, alluvial plains and narrow drainage tracts are moderately susceptible to water erosion, particularly if perennial shrub cover is substantially reduced or the soil surface is disturbed (Payne et al., 1998).

The Norie land system is described as granite hills with exfoliating domes and extensive tor fields supporting acacia shrublands. Footslopes and drainage tracts of this land system are slightly susceptible to accelerated erosion (Payne et al., 1998).

The Yalluwin land system consists of hardpan plains and drainage tracts carrying concentrated flow, supporting mulga, curara and other acacias. The system is subject to flooding and drainage tracts are moderately susceptible to accelerated water erosion (Payne et al., 1998).

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

The northern portion of the application area is located within the former Warriedar Pastoral Lease which is managed by DBCA for the purpose of conservation (formerly DPaW) (GIS Database). The areas proposed to be cleared contain high biological diversity, restricted vegetation units and habitat that supports conservation significant fauna and flora (APM, 2018a; 2018b; JBBC, 2018; Spectrum Ecology, 2020a; 2020b). Although exploration and mining disturbance already exist throughout the Warriedar Pastoral Lease, the proposed clearing will further impact on the conservation values of the area.

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

Methodology

APM (2018a)
APM (2018b)
JBBC (2018)
Spectrum Ecology (2020a)
Spectrum Ecology (2020b)

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). 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 to semi-arid warm Mediterranean (CALM, 2002). The nearest weather station is Paynes Find, approximately 70 kilometres east of the application area, with an average rainfall of approximately 286.8 millimetres per year (BoM, 2020). There are no permanent water courses or waterbodies within the application area (GIS Database). 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:
- Hydrographic Catchments - Catchments
- Hydrography, linear

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

Comments

The clearing permit application was advertised on 03 February 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.

The Mt Mulgine Project was referred to the Environmental Protection Authority (EPA) on 22 February 2017 by Tungsten Mining NL, involving the clearing of 146 hectares of native vegetation within an area of 301 hectares. The EPA published a decision of "s. 39A – Not Assess" on 30 June 2017 and issued public advice. The public advice issued was in regards to flora and vegetation, terrestrial fauna and inland waters environmental quality.

There is one native title claim (WC1996/098) over the area under application (DPLH, 2020). 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 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.

The application area includes habitat for Malleefowl, *Leipoa ocellata*, and Western Spiny-tailed Skink, *Egernia stokesii badia*, which are listed as a 'matter of national environmental significance' (MNES) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Actions which are likely to have a significant impact on an MNES require approval under the EPBC Act. It is the proponent's responsibility to comply with the EPBC Act and determine whether approvals under the EPBC Act are required for the proposed works.

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

APM (2018a) Mt Mulgine Project – Biological Survey. Report prepared by Animal Plant and Mineral Pty Ltd for Tungsten Mining NL, July 2018.

APM (2018b) Mt Mulgine Project – Biological Survey – Targeted Survey for Threatened and Priority Flora, and Conservation Significant Fauna Habitat. Report prepared by Animal Plant and Mineral Pty Ltd for Mid-West Tungsten Pty Ltd, July 2018.

BoM (2020) Bureau of Meteorology Website – Climate Data Online, Paynes Find. Bureau of Meteorology. http://www.bom.gov.au/climate/data/ (Accessed 11 August 2020).

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.

DBCA (2020a) Advice received in relation to Clearing Permit Application CPS 8786/1. Species and Communities Branch, Department of Biodiversity, Conservation and Attractions, Western Australia, April 2020.

DBCA (2020b) Advice received in relation to Clearing Permit Application CPS 8786/1. Species and Communities Branch, Department of Biodiversity, Conservation and Attractions, Western Australia, September 2020.

DPLH (2020) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. http://maps.daa.wa.gov.au/AHIS/ (Accessed 17 August 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.
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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 (2018) Targeted flora survey for new populations of *Acacia sulcaticaulis* to support the application for a clearing permit for the Mount Mulgine Project. Report prepared by Jenny Borger Botanical Consulting for Mid-West Tungsten Pty Ltd, December 2018.
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Payne, A.L., Van Vreeswyk, A.M.E., Pringle, H.J.R., Leighton, K.A and Hennig, P (1998) Technical Bulletin No. 90: An inventory and condition survey of the Sandstone-Yalgoo-Paynes Find area, Western Australia. Department of Agriculture, Western Australia, South Perth.
Spectrum Ecology (2020a) Mount Mulgine Flora and Vegetation Assessment. Report prepared by Spectrum Ecology Pty Ltd for Tungsten Mining NL, June 2020.
Spectrum Ecology (2020b) Mount Mulgine Terrestrial Fauna Assessment. Report prepared by Spectrum Ecology Pty Ltd for Tungsten Mining NL, June 2020.
Spectrum Ecology (2020c) Mount Mulgine Targeted Threatened Flora Survey, *Stylidium scintillans*. Report prepared by Spectrum Ecology Pty Ltd for Tungsten Mining NL, June 2020.
Terratree (2014) Level 1 and 2 Flora and Vegetation Survey and Mapping Potential Habitat for the Threatened (Declared Rare) species *Stylidium scintillans*. Report prepared by Terratree Ecological Assessment and Management for Minjar Gold, December 2014.
Tungsten Mining NL (2020a) Application for a Native Vegetation Clearing Permit (Purpose Permit) for the Mt Mulgine Project, January 2020.
Tungsten Mining NL (2020b) Additional information provided during assessment, August 2020.
Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. https://florabase.dpaw.wa.gov.au/ (Accessed 14 August 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	*Environmental Protection Act 1986*, Western Australia
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (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	*Rights in Water and Irrigation Act 1914*, 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.