



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8629/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Lime Industries Pty Ltd

1.3. Property details

Property: Mining Lease 70/697
Local Government Area: Shire of Gingin
Colloquial name: Ledge Point Limesand

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
17.46		Mechanical Removal	Sand extraction and associated activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 3 October 2019

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description The vegetation of the application area is broadly mapped as the following Beard vegetation associations:
129: Bare areas; dune sand; and
1007: Mosaic: shrublands; *Acacia lasiocarpa* and *Melaleuca acerosa* heath / shrublands; *Acacia rostellifera* and *Acacia cyclops* thicket (GIS Database).

The application area is also mapped as being comprised of one finer scale vegetation complex as mapped by Heddle *et al.* (1980), which provides a more detailed description of the vegetation:

Quindalup Complex: Coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of *Melaleuca lanceolata* (Rottnest Teatree) - *Callitris preissii* (Rottnest Island Pine), the closed scrub of *Acacia rostellifera* (Summer-scented Wattle) and the low closed *Agonis flexuosa* (Peppermint) forest of Geographe Bay.

A flora and vegetation survey was conducted over the application area and surrounding areas by PGV Environmental on 31 October, 2018. The following eight vegetation associations were recorded within the application area and surrounding areas (PGV Environmental, 2018):

Sg: *Spyridium globulosum* / *Melaleuca systema* / *Acacia lasiocarpa* / *Olearia axillaris* low closed heath

Ms: *Melaleuca systema* / *Calothamnus quadrifidus* / *Olearia axillaris* closed low heath

MsOa: *Melaleuca systema* / *Scaevola nitida* / *Olearia axillaris* low open heath

Al: *Anthocercis littorea* tall shrubland over *Melaleuca systema* / *Scaevola thesioides* open low heath

Lg: *Lepidosperma gladiatum* sedgeland

McSg: *Melaleuca cardiophylla* / *Spyridium globulosum* tall shrubland

ArSg: *Acacia rostellifera* / *Spyridium globulosum* shrubland over *Melaleuca systema* low heath

Ac: *Acacia cyclops* / *Olearia axillaris* / *Scaevola nitida* / *Spyridium globulosum* open heath

Clearing Description

Ledge Point Limesand.
Lime Industries Pty Ltd proposes to clear up to 17.46 hectares of native vegetation, for the purpose of sand extraction and associated activities. The project is located approximately six kilometres south south-east of Lancelin, within the Shire of Gingin.

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 derived from a vegetation survey conducted by PGV Environmental (2018).

The proposed clearing is for an extension to the existing lime sand mining operations.

3. Assessment of application against Clearing Principles

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

Comments

Proposal is not likely to be at variance to this Principle

The clearing permit application area is located within the Swan Coastal Plain subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Swan Coastal Plain Bioregion (GIS Database). The Swan Coastal Plain subregion is described as a low lying coastal plain, mainly covered with woodlands (CALM, 2002). It is dominated by *Banksia* and Tuart woodlands on sandy soils, *Casuarina obesa* woodlands on outwash plains and paperbark in swampy areas (CALM, 2002).

A flora and vegetation survey was conducted over the application area by PGV Environmental on 31 October 2018 (PGV Environmental, 2018). The vegetation of the application area was described as being predominately closed to open low heath on coastal sand dunes and tall shrublands containing *Melaleuca cardiophylla* (PGV Environmental, 2018). One Threatened Ecological Community (TEC); Sedgeland in Holocene dune swales of the southern Swan Coastal Plain (listed as Critically Endangered at State level and Endangered at Federal level), and one Priority Ecological Community (PEC); Banksia Woodlands of the Swan Coastal Plain (listed as Priority 3 at State level and Endangered at Federal level), were identified as potentially occurring in the application area. However the field assessment of the application area did not record any TECs or PECs (PGV Environmental, 2018).

A total of 72 flora species, including 59 native species and 13 introduced species, were recorded within the application area during the field assessment by PGV Environmental (2018). The desktop assessment of the application area identified 26 conservation significant flora species as potentially occurring within the application area based on known distributions (PGV Environmental, 2018). However, only ten of these species were identified as possibly occurring due to the presence of suitable habitat (PGV Environmental, 2018). No Threatened flora were recorded during the field assessment of the application area (PGV Environmental, 2018). Two Priority flora species were recorded within the application area; *Styliidium maritimum* (P3), and *Thryptomene* sp. Lancelin (M.E.Trudgen 14000) (P3) (PGV Environmental, 2018).

Styliidium maritimum is known from a range of approximately 370 kilometres north-south along the Western Australian coast between Illawong (west of Eneabba) to Preston Beach (DBCA, 2019; Western Australian Herbarium, 1998-). The application area is within the known range of the species, with over 120 individuals of *Styliidium maritimum* being recorded from 11 locations within the application area and surrounding areas, predominately within *Melaleuca systema* / *Acacia lasiocarpa* / *Lomandra maritima* low open heath (vegetation associations Ms and Sg) (PGV Environmental, 2018). The proposed clearing of 67 plants at five locations is unlikely to be significant with respect to the conservation of the species at either the local or regional scale.

Thryptomene sp. Lancelin (M.E.Trudgen 14000) is known from a range of over 190 kilometres north-south in dunes along the coast from south of Port Denison to Lancelin (DBCA, 2019; Western Australian Herbarium, 1998-). However, as the application area is at the southern extent of the species distribution, the populations within M 70/697 are potentially of regional significance for the broader conservation of the species across its range (DBCA, 2019). *Thryptomene* sp. Lancelin (M.E.Trudgen 14000) was recorded at one location with 20 plants present, within *Melaleuca systema* / *Acacia lasiocarpa* / *Calothamnus quadrifidus* / *Lomandra maritima* low open heath (PGV Environmental, 2018). The impacts of the proposed clearing are not currently likely to be significant at the local or regional scale, as there are two other large populations (estimated at 150-200 plants) within or directly adjacent to M 70/697 (DBCA, 2019). However, ensuring any future expansion demonstrates that a sustainable population (and associated habitat) will be retained locally will be important for future applications within M 70/697.

Thirteen weed species were recorded within the application area (PGV Environmental, 2018). Weeds have the potential to out-compete native flora and reduce the biodiversity of an area. Potential impacts to biodiversity as a result of the introduction of weeds may be minimised by the implementation of a weed management condition.

The desktop assessment of the application area identified four conservation significant fauna species as potentially occurring within the application area based on records occurring within a five kilometre radius (DBCA, 2007-). These include: Carnaby's Cockatoo, *Calyptorhynchus latirostris* (EN at both State and Federal level); Crested Tern, *Thalasseus bergii* (M); Quenda, *Isodon fusciventer* (P4); and Graceful Sunmoth, *Synemon gratiosa* (P4) (DBCA, 2007-). Although potential habitat for these species may occur within the application area, these species are unlikely to be specifically reliant on the application area and the proposed clearing is unlikely to have a significant impact on the conservation of these species.

The vegetation associations and landform types present within the application area, are well represented in surrounding areas (GIS Database). The application area is unlikely to represent an area of higher biodiversity than surrounding areas, in either a local or regional context.

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

Methodology

CALM (2002)
DBCA (2007-)

DBCA (2019)
PGV Environmental (2018)
Western Australian Herbarium (1998-)

GIS Database:

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

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

Comments Proposal is unlikely to be at variance to this Principle

Fauna and fauna habitat was not specifically assessed within the application area. However, the vegetation of the application area was described as being predominately closed to open low heath on coastal sand dunes, and tall shrublands containing *Melaleuca cardiophylla* (PGV Environmental, 2018). The clearing of 17.46 hectares of vegetation is unlikely to impact on the overall habitat of fauna species given the majority of the application area is surrounded by areas of intact native vegetation (GIS Database). It is unlikely that any conservation significant fauna species are specifically reliant on habitat within the application area, and impacts of the proposed clearing are unlikely to be significant if progressive rehabilitation methods are adopted.

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

Methodology PGV Environmental (2018)

GIS Database:

- Imagery
- Pre-European Vegetation
- Threatened Fauna

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

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

There are no known records of Threatened flora within the application area (GIS Database). Flora surveys of the application area did not record any species of Threatened flora (PGV Environmental, 2018).

The vegetation associations within the application area are common and widespread within the region (PGV Environmental, 2018; GIS Database). The vegetation proposed to be cleared is therefore unlikely to be necessary for the continued existence of any species of Threatened (rare) flora.

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

Methodology PGV Environmental (2018)

GIS Database:

- Pre-European Vegetation
- Threatened and Priority Flora

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

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

There are no known Threatened Ecological Communities (TECs) located within or in close proximity to the application area (GIS Database). A flora and vegetation survey of the application area did not identify any TECs (PGV Environmental, 2018).

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

Methodology PGV Environmental (2018)

GIS Database:

- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments Proposal is not at variance to this Principle

The application area falls within the Swan Coastal Plain Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 38% of the pre-European vegetation still exists in the IBRA Swan Coastal Plain Bioregion (Government of Western Australia, 2019a). This bioregion has a conservation status of 'Depleted' (Department of Natural Resources and Environment, 2002). The application area is broadly mapped as Beard vegetation associations 129: Bare areas; dune sand; and 1007: Mosaic: shrublands; *Acacia lasiocarpa* and *Melaleuca acerosa* heath / shrublands; *Acacia rostellifera* and *Acacia cyclops* thicket (GIS Database). Approximately 68-94% of the pre-European extent of each of these vegetation associations remains uncleared at both the state and bioregional level (Government of Western Australia, 2019a).

The application area was also mapped by Heddlé *et al.* (1980) as the Quindalup Complex: Coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance and the mobile and stable dune alliance (GIS Database). Local variations include the low closed forest of *Melaleuca lanceolata* (Rottneest Teatree) - *Callitris preissii* (Rottneest Island Pine), the closed scrub of *Acacia rostellifera* (Summer-scented Wattle) and the low closed *Agonis flexuosa* (Peppermint) forest of Geographe Bay (GIS Database). Approximately 66% of the pre-European extent of this vegetation complex remains uncleared (Government of Western Australia, 2019b).

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 (and post clearing)
IBRA Bioregion – Swan Coastal Plain	1,501,221	579,813	~38	Depleted	~17 (38)
IBRA Subregion – Perth	1,117,757	466,142	~41	Depleted	~20 (39)
Local Government – Gingin	319,676	176,727	~55	Least Concern	~28 (47)
Beard vegetation associations – WA					
129	95,586	82,850	~86	Least Concern	~48 (51)
1007	30,407	20,691	~68	Least Concern	~10 (14)
Beard vegetation associations – Swan Coastal Plain Bioregion					
129	10,346	9,802	~94	Least Concern	~50 (52)
1007	30,109	20,679	~68	Least Concern	~10 (14)
Beard vegetation associations – Perth subregion					
129	10,346	9,802	~94	Least Concern	~50 (52)
1007	30,109	20,679	~68	Least Concern	~10 (14)
Heddlé vegetation complex***					
Quindalup	54,573	33,011	~66	Least Concern	~10

* Government of Western Australia (2019a)

** Department of Natural Resources and Environment (2002)

*** Government of Western Australia (2019b)

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 (2019a)
Government of Western Australia (2019b)

GIS Database:
- IBRA Australia
- Pre-European Vegetation
- Heddlé Vegetation Complexes

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

Comments Proposal is not at variance to this Principle

There are no watercourses or wetlands within the area proposed to clear (PGV Environmental, 2018; GIS Database).

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

Methodology PGV Environmental (2018)

GIS Database:
- Hydrography, Lakes
- Hydrography, linear

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

Comments Proposal may be at variance to this Principle

The application area is located on the lower slopes of the landscape and lies within the Quindalup South Third Dune Phase, Map Unit 211Qu-Q3 Map Unit (DPIRD, 2019). The 211Qu-Q3 Map Unit is described as irregular dunes with high relief and slopes up to 20 % (DPIRD, 2019). It has loose calcareous sand with little surface organic staining and incipient cementation at depth (DPIRD, 2019). There is a high risk of eutrophication and wind erosion if the native vegetation is cleared on this map unit (DPIRD, 2019). However, these risks may be avoided if the ground water table is not intercepted and the mined areas are progressively revegetated (DPIRD, 2019). Lime Industries Pty Ltd would be expected to achieve satisfactory rehabilitation performance through the management of topsoil, overburden and cleared coastal vegetation debris.

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

Methodology DPIRD (2019)

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

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

There are no conservation areas in the vicinity of the application area. The nearest DBCA (formerly DPaW) managed land is the Nilgen Nature Reserve which is located approximately 7.3 kilometres north north-east of the application area (GIS Database). The proposed clearing is unlikely to impact on the environmental values of any conservation area.

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

Methodology GIS Database:
- DPaW Tenure

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

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

There are no Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database). There are no 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 Warm Mediterranean (CALM, 2002). The nearest weather station is Lancelin, approximately six kilometres north of the application area, with an average rainfall of approximately 603.9 millimetres per year (BoM, 2019).

There are no watercourses 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 (2019)
CALM (2002)

GIS Database:
- Hydrography, linear

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

Comments

The clearing permit application was advertised on 19 August 2019 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WC1997/071) over the area under application (DPLH, 2019). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2019). However, advice from the South West Aboriginal Land and Sea Council (SWALSC) indicates that no Cultural Heritage surveys have been conducted over the application area and that the area may contain sites of significance to the Yued people (SWALSC, 2019). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

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

Methodology DPLH (2019)

4. References

- BoM (2019) Bureau of Meteorology Website – Climate Data Online, Lancelin. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 1 October 2019).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DBCA (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Biodiversity, Conservation and Attractions. <https://naturemap.dbca.wa.gov.au/> (Accessed 1 October 2019).
- DBCA (2019) Advice received in relation to Clearing Permit Application CPS 8629/1. Species and Communities Branch, Department of Biodiversity, Conservation and Attractions, Western Australia, September 2019.
- DPIRD (2019) Advice received in relation to Clearing Permit Application CPS 8629/1. Deputy Commissioner of Soil and Land Conservation, Department of Primary Industries and Regional Development, Western Australia, September 2019.
- DPLH (2019) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <http://maps.daa.wa.gov.au/AHIS/> (Accessed 1 October 2019).
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Government of Western Australia (2019a) 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>
- Government of Western Australia (2019b) 2018 South West Vegetation Complex Statistics. Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth. <https://catalogue.data.wa.gov.au/dataset/dbca>
- Hedde, E.M., Loneragan, O.W., and Havel, J.J. (1980) Vegetation of the Darling System. Atlas of Natural Resources, Darling System, Western Australia. Department of Conservation and Environment, Perth, Western Australia.

- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- PGV Environmental (2018) M 70/697, Lancelin Flora and Vegetation Survey. Report prepared by PGV Environmental, for Lime Industries Pty Ltd, December 2018.
- SWALSC (2019) Advice received in relation to Clearing Permit Application CPS 8629/1. South West Aboriginal Land and Sea Council, September 2019.
- Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/> (Accessed 1 October, 2019).

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)
DEE	Department of the Environment and Energy, Australian Government
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora
DoE	Department of the Environment, Australian Government (now DEE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DSEWPac	Department of Sustainability, Environment, Water, Population and Communities (now DEE)
DWER	Department of Water and Environmental Regulation, Western Australia
EPA	Environmental Protection Authority, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

{DBCA (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-

T **Threatened species:**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**

Threatened species considered to be "facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines".

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN Endangered species
Threatened species considered to be “*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU Vulnerable species
Threatened species considered to be “*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct Species:

EX Extinct species
Species where “*there is no reasonable doubt that the last member of the species has died*”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW Extinct in the wild species
Species that “*is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*”, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species:

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI Migratory species
Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD Species of special conservation interest (conservation dependent fauna)
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P **Priority species:**

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1 **Priority One - Poorly-known species**

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 **Priority Two - Poorly-known species**

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 **Priority Three - Poorly-known species**

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

P4 **Priority Four - Rare, Near Threatened and other species in need of monitoring**

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.