

# **Clearing Permit Decision Report**

# 1. Application details

| 1.1. Permit application details |  |  |   |  |  |  |  |
|---------------------------------|--|--|---|--|--|--|--|
| Permit application No.:         | 8247/1   |  |   |  |  |  |  |
| Permit type:                    | Purpose Permit   |  |   |  |  |  |  |
| 1.2. Proponent detai            | ls   |  |   |  |  |  |  |
| Proponent's name:               | Fortescue Metals Group Limited   |  |   |  |  |  |  |
| 1.3. Property details           |  |  |   |  |  |  |  |
| Property:                       | Iron Ore (Hamersley Range) Agreement Act 1963, Mineral Lease 4SA (AML 70/4)  |  |   |  |  |  |  |
| Local Government Area:          | Shire of   | Shire of Ashburton                           |   |  |  |  |  |
| Colloquial name:                | Flying F   | Flying Fish Project                          |   |  |  |  |  |
| 1.4. Application                |  |  |   |  |  |  |  |
| Clearing Area (ha)              | No. Trees  | Method of Clearing                           | For the purpose of:   |  |  |  |  |
| 1                               |  | Mechanical Removal                           | Access Tracks   |  |  |  |  |
| 1.5. Decision on app            | lication   |  |   |  |  |  |  |
| Decision on Permit Applicat     | tion: Grant  | Grant  |   |  |  |  |  |
| Decision Date:                  | Decision Date: 10 January 2019   |  |   |  |  |  |  |
| 2 Cite Information              |  |  |   |  |  |  |  |
| 2. Site information             |  |  |   |  |  |  |  |
| 2.1. Existing environ           | ment and inf   | formation                                    |   |  |  |  |  |
| 2.1.1. Description of the       | e native vegeta  | ation under application                      |   |  |  |  |  |
| Vegetation Description          | The vegetation of<br>82 <sup>.</sup> Hummock gr  | f the application area is broadl             | y mapped as the following Beard vegetation association:   |  |  |  |  |
|                                 | o_i i iaioon g.  |  |   |  |  |  |  |
|                                 | A Level 2 flora and vegetation survey was conducted over the application area and its surrounds by Ecoscape in April 2012 and April 2013. A Level 1 flora and vegetation survey had previously been undertaken in July 2011 (Ecoscape 2015). The following vegetation associations were recorded within the application area (FMG, 2018):  |  |   |  |  |  |  |
|                                 | AbTe - Acacia bivenosa mid sparse shrubland over Triodia epactia mid open hummock grassland.<br>AeTw - Acacia exilis, A. bivenosa and A. marramamba mid sparse shrubland over Triodia wiseana and<br>T. epactia low open hummock grassland.<br>AgAaTe - Eucalyptus gamophylla mid sparse mallee shrubland over Acacia atkinsiana, A. bivenosa and A. exilis<br>tall sparse shrubland over Triodia epactia and T. wiseana mid hummock grassland.<br>EIAaTw - Eucalyptus leucophloia subsp. leucophloia low open woodland over Acacia atkinsiana and A. exilis tall<br>open shrubland over Triodia wiseana low open hummock grassland. |  |   |  |  |  |  |
|                                 |  |  |   |  |  |  |  |
|                                 |  |  |   |  |  |  |  |
|                                 | EIAmTw - Eucalyptus leucophloia subsp. leucophloia low open woodland over Acacia maitlandii,   |  |   |  |  |  |  |
|                                 | A. marramamba and Senna glutinosa subsp. glutinosa mid-tall sparse shrubland over Triodia wiseana mid  |  |   |  |  |  |  |
|                                 | EvAcCc - Eucalyptus victrix low-mid open woodland over Acacia citrinoviridis and Melaleuca glomerata tall open   |  |   |  |  |  |  |
|                                 | shrubland over *(<br>grassland/low sp  | Cenchrus ciliaris, Pluchea den<br>arse herbs | tax and <i>Eriachne tenuiculmi</i> s and <i>Eulalia aurea</i> mid open tussock                                  |  |  |  |  |
|                                 | grassiandriow sparse nerbs.<br>ExAbTw - Eucalyptus xerothermica and E. socialis subsp. eucentrica low open mallee woodland over Acacia   |  |   |  |  |  |  |
|                                 | bivenosa and A. :<br>ExActe - Eucaly   | synchronicia tall sparse shrubl              | and over <i>Triodia wiseana</i> low hummock grassland.  |  |  |  |  |
| ,                               | var. <i>pyrifolia</i> tall o   | open shrubland over <i>Triodia ep</i>        | pactia, Themeda triandra and Chrysopogon fallax mid hummock   |  |  |  |  |
|                                 | grassland/mid tus  | ssock grassland.                             |   |  |  |  |  |
|                                 | <sup>*</sup> denotes introdu   | ced species                                  |   |  |  |  |  |
| Cleaning Description            | Elvina Eist Desta  | at   |   |  |  |  |  |
| Clearing Description            | For the project.<br>Fortescue Metals Group Limited proposes to clear up to 1 hectare of native vegetation within a boundary of<br>approximately 160 hectares, for the purpose of access tracks. The project is located approximately 55  |  |   |  |  |  |  |
|                                 | kilometres north-west of Tom Price, within the Shire of Ashburton.   |  |   |  |  |  |  |
| Vegetation Condition            | Excellent: Vegeta  | ation structure intact: disturban            | ce affecting individual species, weeds non-aggressive (Keighery   |  |  |  |  |
| - Soution condition             | 1994).   |  | and an even of the second s |  |  |  |  |

To:

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Comment

The vegetation condition was derived from a vegetation survey conducted by Ecoscape (2015). On a broad scale the vegetation within the application area was excellent to very good in condition, with some areas described as the degraded due to the presence of existing tracks.

The proposed clearing is for access tracks to support mineral exploration.

#### 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 Hamersley subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Pilbara Bioregion (GIS Database). This subregion is generally described as Mulga low woodland over bunch grasses on fine textured soils in valley floors, and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges (CALM, 2002).

A Level 2 flora and vegetation survey was conducted over the application area and its surrounds by Ecoscape in April 2012 and April 2013. A Level 1 flora and vegetation survey had previously been undertaken in July 2011 and its results incorporated into the later surveys (Ecoscape, 2015). A total of 429 vascular flora taxa were recorded consisting of 47 families and 159 genera. The most common families were Fabaceae, Poaceae and Malvaceae (Ecoscape, 2015). The species richness of the survey area is considered to be low to average in comparison with other Pilbara survey areas (Ecoscape, 2015).

The vegetation communities within the application area are common within the Pilbara (FMG, 2018; Government of Western Australia, 2018; GIS Database).

According to available datasets, there are no Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) within the application area (GIS Database). The flora and vegetation survey did not record any TECs. One PEC '*Triodia* sp. Robe River assemblages of mesas of the West Pilbara' was recorded within the larger survey boundary, however, it was not mapped within the application area (Ecoscape, 2015).

One Priority Flora species was recorded within the application area. One record of *Goodenia nuda* (Priority Four) with a population of one plant was recorded within the application area and may be impacted by the proposed clearing (Ecoscape 2015). The small number of *Goodenia nuda* found during the survey was not considered of high significance (Ecoscape, 2015) and the species has been recorded over a wide range in the Pilbara (Western Australian Herbarium, 2019). The application area falls within the larger clearing permit boundary for clearing permit CPS 6961/3. A flora management condition on the permit prevents the permit holder clearing the known locations of nine Priority Flora species, unless first approved by the CEO. The proposed clearing for CPS 8247/1 will not impact any of the known locations of these nine species of Priority Flora (Hamersley Iron Pty Ltd, 2016).

Eleven introduced species were recorded in the wider survey area and Buffel Grass (*Cenchrus ciliaris*) was recorded within the application area (Ecoscape, 2015). Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Three broad fauna habitat types were recorded within the application area. These were 'Shrubland Plains', 'Rocky Escarpments' and 'Major Drainage line' (FMG, 2018). Although these fauna habitat types are not unique to the application area (Ecologia, 2015), the 'Major Drainage Line' fauna habitat may provide habitat for conservation significant vertebrate fauna species (FMG, 2018). Potential disturbance to riparian habitat types may be minimised by the implementation of a restricted clearing condition.

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

#### Methodology

CALM (2002) Ecologica (2015) Ecoscape (2015) FMG (2018) Government of Western Australia (2018) Hamersley Iron Pty Ltd (2016) Western Australian Herbarium (2019)

GIS Database:

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

# (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 not likely to be at variance to this Principle

A two-phase Level 2 fauna survey of the application area and its surrounds was undertaken by Ecologia in April 2012 and April 2013. The following fauna habitats have been recorded within the application area (FMG, 2018):

- Shrubland Plains;
- Rocky Escarpments; and
- Major Drainage Line.

These fauna habitat types are not unique to the application area or the larger survey area (Ecologia, 2015).

The 'Major Drainage Line' fauna habitat may provide habitat for conservation significant vertebrate fauna species (FMG, 2018). Potential disturbance to riparian habitat types may be minimised by the implementation of a vegetation management condition.

The proposed clearing of 1 hectare of native vegetation, within a boundary of approximately 160 hectares, is unlikely to impact significant habitat for fauna indigenous to Western Australia.

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

Methodology Ecologia (2015) FMG (2018)

# (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). A Level 2 flora and vegetation survey was conducted over the application area and its surrounds by Ecoscape in April 2012 and April 2013. No Threatened Flora were recorded during the survey (Ecoscape, 2015).

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

Methodology Ecoscape (2015)

GIS Database:

- Threatened and Priority Flora

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

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

There are no known Threatened Ecological Communities (TECs) located within or in close proximity to the application area (GIS Database). The nearest recorded TEC is the 'Themeda grasslands on cracking clays', located approximately 22 kilometres north of the application area (GIS Database).

A flora and vegetation survey of the application area did not identify any TECs (Ecoscape, 2015).

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

Methodology Ecoscape (2015)

GIS Database:

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

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

### Comments Proposal is not at variance to this Principle

The application area falls within the Pilbara Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 99.6% of the pre-European vegetation still exists in the IBRA Pilbara Bioregion (Government of Western Australia, 2018). The application area is broadly mapped as Beard vegetation association 82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana* (GIS Database). Approximately 99.5% of the pre-European extent of this vegetation association remains uncleared

at both the state and bioregional level (Government of Western Australia, 2018).

Therefore, the application area does not represent a significant remnant of native vegetation in an area that has been extensively cleared.

|  | Pre-European<br>area (ha)* | Current extent<br>(ha)* | Remaining<br>%* | Conservation<br>Status** | Pre-European<br>% in DBCA<br>managed lands |
|--|----------------------------|-------------------------|-----------------|--------------------------|--|
| IBRA Bioregion<br>– Pilbara                          | 17,808,657                 | 17,733,584              | ~99.6           | Least<br>Concern         | 10.1                                       |
| Beard vegetation as<br>– WA                          | sociations                 |                         |                 |                          |  |
| 82   | 2,565,901                  | 2,553,217               | ~99.5           | Least<br>Concern         | 11.5                                       |
| Beard vegetation associations<br>– Pilbara Bioregion |                            |                         |                 |                          |  |
| 82   | 2,563,583                  | 2,550,899               | ~99.5           | Least<br>Concern         | 11.5                                       |

\* Government of Western Australia (2018)

\*\* Department of Natural Resources and Environment (2002)

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

- Methodology Department of Natural Resources and Environment (2002) Government of Western Australia (2018)
  - GIS Database:
  - IBRA Australia
  - Pre-European Vegetation

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

### Comments Proposal is at variance to this Principle

There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). However, there are several minor non-perennial watercourses that cross through the application area (GIS Database). The creeklines intersect several different mapped vegetation types, although none of these vegetation types are exclusively associated with watercourses (Ecoscape, 2015).

Based on the above, the proposed clearing is at variance to this Principle. However, vegetation associated with minor drainage lines is widespread in the Pilbara region and the ephemeral watercourses within the application area are minor and not of regional significance.

Methodology Ecoscape (2015)

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 is not likely to be at variance to this Principle

The application area lies within the Boolgeeda, Newman and Platform 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 Boolgeeda Land System is characterised by stony lower slopes and plains below hill systems supporting hard and soft spinifex grasslands and mulga shrublands (Van Vreeswyk et al., 2004). The vegetation is generally not prone to degradation and the system is not susceptible to erosion (Van Vreeswyk et al., 2004).

The Newman Land System is characterised by rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands (Van Vreeswyk et al., 2004). Each of the landforms in the land system have a mantle of abundant pebbles of ironstone and other rocks, which translates to a low soil erosion risk (Van Vreeswyk et al., 2004).

The Platform Land System is characterised by dissected slopes and raised plains supporting hard spinifex grasslands (Van Vreeswyk et al., 2004). The land forms in this land system generally have surface mantles of

very abundant pebbles and cobbles and the system is not susceptible to erosion (Van Vreeswyk et al., 2004). The proposed clearing of up to 1 hectare of native vegetation within a boundary of approximately 160 hectares, for the purpose of access tracks is unlikely to cause appreciable land degradation. Based on the above, the proposed clearing is not likely to be at variance to this Principle. Methodology Van Vreeswyk et al. (2004) GIS Database: - Landsystem Rangelands (h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area. Comments Proposal is not likely to be at variance to this Principle There are no conservation areas in the vicinity of the application area. The nearest DBCA (formerly DPaW) managed land is the Karijini National Park which is located approximately 70 kilometres 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 Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration (i) in the quality of surface or underground water. Comments Proposal is not likely to be at variance to this Principle There are no permanent watercourses or wetlands within the application area, however, several minor nonperennial watercourses cross the application area (GIS Database). The application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The nearest PDWSA is Newman Water Reserve, which is approximately 31 kilometres to the north-east (GIS Database). The proposed clearing is unlikely to affect the water quality of the water reserve due to the large distance between it and the application area. The small amount of clearing proposed (1 hectare) is unlikely to cause deterioration in the guality of surface or 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 Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the (j) incidence or intensity of flooding. Comments Proposal is not likely to be at variance to this Principle The climate of the region is semi-desert tropical, with a low average rainfall of approximately 324.2 millimetres per year (BoM, 2018; CALM, 2002). Evaporation greatly exceeds rainfall with an average annual evaporation rate of 3,200 millimetres per year (BoM, 2016 in FMG, 2018). There are no permanent water courses or waterbodies within the application area (GIS Database). Seasonal drainage lines are common in the region and temporary localised flooding may occur briefly following heavy rainfall events. However, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events. Based on the above, the proposed clearing is not likely to be at variance to this Principle. Methodology BoM (2018) CALM (2002) FMG (2018)

GIS Database:

- Hydrography, linear

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

#### Comments

The clearing permit application was advertised on 26 November 2018 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WC2001/005) over the area under application (DPLH, 2018). 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, 2018). 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 (2018)

# 4. References

BoM (2018) Bureau of Meteorology Website – Climate Data Online, Paraburdoo Aero. Bureau of Meteorology. <u>http://www.bom.gov.au/climate/data/</u> (Accessed 13 December 2018).

- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DPLH (2018) Aboriginal Heritage Enquiry System. Department of Planning, Lands and Heritage. http://maps.daa.wa.gov.au/AHIS/ (Accessed 13 December 2018).
- 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.

Ecologia (2015) Fortescue Metals Group Western Hub Project – Eliwana and Flying Fish Terrestrial Vertebrate Fauna Assessment. Report Prepared by Ecologia Environment for Fortescue Metals Group, January 2015.

- Ecoscape (2015) Eliwana and Flying Fish Level 2 Flora and Vegetation Survey (Phase 2). Report Prepared by Ecoscape (Australia) Pty Ltd for Fortescue Metals Group Ltd, January 2015.
- FMG (2018) Native Vegetation Clearing Permit Supporting Document Flying Fish Exploration Prospect Area. Report Prepared by Fortescue Metals Group Limited, November 2018.
- Government of Western Australia (2018) 2017 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017. WA Department of Biodiversity, Conservation and Attractions. https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics

Hamersley Iron (2016) Priority Flora Locations. Additional information received in relation to Clearing Permit Application CPS 6961/2.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Van Vreeswyk, A.M.E., Payne, A.L., Hennig, P., and Leighton, K.A. (2004) An Inventory and Condition Survey of the Pilbara Region, Western Australia. Department of Agriculture, Western Australia.

Western Australian Herbarium (2019). FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <u>https://florabase.dpaw.wa.gov.au/</u> (Accessed 7 January 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   | 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:**

# {DPaW (2017) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

#### T Threatened species:

Published as Specially Protected under the *Wildlife Conservation Act 1950,* listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).

*Threatened fauna* is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the *Wildlife Conservation Act 1950*.

*Threatened flora* is flora that has been declared to be 'likely to become extinct or is rare, or otherwise in need of special protection', pursuant to section 23F(2) of the *Wildlife Conservation Act 1950*.

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. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

#### EN Endangered species

Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

# VU Vulnerable species

Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

# EX Presumed extinct species

Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora.

# IA Migratory birds protected under an international agreement

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 the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.

### CD Conservation dependent fauna

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.

### OS Other specially protected fauna

Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.

### P Priority species

Species which are poorly known; or

Species that are adequately known, are rare but not threatened, and 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.