



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 7828/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Alinta Energy Transmission (Roy Hill) Pty Ltd

### 1.3. Property details

Property: Mining Lease 46/328  
Mining Lease 46/334  
Mining Lease 46/335  
Mining Lease 46/336  
Mining Lease 46/342  
Mining Lease 46/420  
Mining Lease 46/421  
Mining Lease 46/518  
Miscellaneous Licence 46/100

Local Government Area: Shire of East Pilbara  
Colloquial name: Roy Hill to Christmas Creek Transmission Line.

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of:                         |
|--------------------|-----------|--------------------|---|
| 120                |           | Mechanical Removal | Transmission Line and Associated Activities |

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 30 August 2018

## 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 Beard vegetation association 29: Sparse low woodland; mulga, discontinuous in scattered groups (GIS Database).

Flora and vegetation surveys were conducted over the Christmas Creek study area in 2013 by ENV Australia Pty Ltd (ENV Australia), and areas near the Fortescue Marshes by Mattiske in 2007, which covered most of the application area.

The following vegetation associations were recorded within the application area (ENV Australia, 2013; Mattiske, 2007):

**Creepline and Drainage Lines**

VT1 – Open woodland of *Eucalyptus victrix*, *Eucalyptus camaldulensis* with pockets of *Acacia coriacea* subsp. *pendens* over *Grevillea wickhamii* subsp. *aprica*, *Petalostylis labicheoides*, *Acacia tumida* over *Triodia longiceps*, *Chrysopogon fallax*, *Themeda triandra* and *Aristida* species.

2 – Low Woodland to Low Open Forest of *Acacia aneura* var. *aneura*, *Acacia citrinoviridis*, *Acacia pruinocarpa* over *Acacia tetragonophylla* and *Psydrax latifolia* over *Chrysopogon fallax*, *Stemodia viscosa*, *Blumea tenelia*, *Themeda triandra* and species of *Triodia* and *Aristida*.

8 – Closed Shrub to Tall Shrubland of *Acacia pruinocarpa*, *Acacia tumida*, *Acacia ancistrocarpa*, *Acacia maitlandii*, *Acacia kempeana*, *Acacia tetragonophylla* with occasional *Eucalyptus gamophylla* and *Corymbia deserticola* over *Triodia epactia*, *Themeda triandra* and *Aristida* species.

**Flats and Broad Plains**

3 / VT3 – Low Woodland to Low Open Forest of *Acacia aneura* var. *aneura*, *Acacia pruinocarpa*, *Acacia tetragonophylla*, *Acacia tenuissima*, *Grevillea wickhamii* subsp. *aprica*, *Psydrax latifolia* over *Dodonaea petiolaris* and species of *Triodia* and *Aristida*.

4 / VT4 – Low Open Woodland of *Acacia aneura* var. *aneura*, *Acacia pruinocarpa*, *Acacia xiphophylla*, *Acacia victoriae* over *Acacia tetragonophylla*, *Psydrax latifolia* and *Psydrax suaveolens* over *Ptilotus obovatus* and mixed species of *Maireana* and *Sclerolaena*.

VT30.1 – High open Shrubland of *Acacia synchronicia* with *Senna glaucifolia* (and *Sclerolaena spp.* and other halophytes) over *Aristida sp.*

|                             |  |
|-----------------------------|--|
| <b>Clearing Description</b> | Roy Hill to Christmas Creek Transmission Line.<br>Alinta Energy Transmission (Roy Hill) Pty Ltd (Alinta) proposes to clear up to 120 hectares of native vegetation within a boundary of approximately 1,679 hectares, for the purpose of an overhead transmission line between Alinta's existing Roy Hill substation and FMG's Christmas Creek substation. The project is located approximately 67 kilometres south-west of Nullagine, within the Shire of East Pilbara.   |
| <b>Vegetation Condition</b> | Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);<br><br>to<br><br>Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).   |
| <b>Comment</b>              | The vegetation condition was partly derived from vegetation surveys conducted by ENV Australia (2013) and Matiske (2007), as well as from analysis of aerial imagery.<br><br>The proposed clearing is for the construction of a 132 Kilovolt overhead transmission line, approximately 30 kilometres long between Alinta's existing Roy Hill substation and FMG's Christmas Creek substation in the Pilbara region of Western Australia. The proposed transmission line and associated infrastructure will supply FMG's Christmas Creek Iron Ore Mine with power to support ongoing mining activities.<br><br>The Roy Hill to Christmas Creek transmission line includes the following main activities: <ul style="list-style-type: none"><li>• Installing approximately 150 towers at approximately 200 metre intervals along the proposed alignment;</li><li>• A five metre wide access track running the length of the transmission line which will be used by construction and maintenance vehicles for movement between towers;</li><li>• Laying conductors on the ground between towers prior to stringing; and</li><li>• Additional clearing for fire hazard reduction to protect the transmission line and associated infrastructure from potential damage from bushfires.</li></ul> |

### 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 may be at variance to this Principle**

The clearing permit application area is located within the Fortescue Plains subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Pilbara Bioregion (GIS Database). The Fortescue Plains subregion can be described as alluvial plains with *Acacia aneura* over grass communities and *Eucalyptus camaldulensis* woodlands fringing drainage lines (CALM, 2002).

There are no records of any Threatened or Priority Ecological Communities (TECs/PECs) within the application area (Preston Consulting, 2017; GIS Database). One PEC, the Fortescue Marsh, occurs approximately five kilometres to the south west of the application area (GIS Database).

There are numerous records of Priority flora within 20 kilometres of the application area, including records of two Priority flora species from flora surveys which included the application area (Preston Consulting, 2017). The Priority flora species *Rhagodia sp.* Hamersley (Priority 3) and *Goodenia nuda* (Priority 4) were both recorded within the application area (Preston Consulting, 2017). The proposed clearing is unlikely to impact the conservation significance of these species as they were recorded in numerous locations outside the application area. Additionally, all known locations of Priority Flora species will be recorded in Alinta's Ground Disturbance Permit system and known locations shall be avoided where reasonably practicable (Preston Consulting, 2017).

The vegetation within the application area is considered to be in 'Excellent' to 'Completely Degraded' condition, due to areas associated with mining, exploration and infrastructure (ENV Australia, 2013; Matiske, 2007). The majority of the vegetation within the application area is considered to be in an 'Excellent' condition (GIS Database).

The proposed clearing area lies within areas near the Fortescue Marshes surveyed by Matiske (2007), as well as an area of approximately 70,144 hectares which was surveyed for FMG's Christmas Creek Iron Ore Mine (ENV Australia, 2013).

A total of 92 flora taxa from 28 families and 68 genera were recorded from the survey conducted by Matiske (2007). A total of 485 taxa, representing 17 genera belonging to 53 families were recorded during the flora and vegetation surveys from 2011 and 2013 within the Christmas Creek study area, reflecting good seasonal conditions and intrinsically high species diversity, particularly of mulga and riparian vegetation (ENV Australia, 2013).

The proposed clearing area lies partly within an area of approximately 66,740 hectares which was surveyed for

fauna for the Christmas Creek Iron Ore Mine (ENV Australia, 2012). This survey covers the majority of the application area. A total of 120 vertebrate fauna species, consisting of four amphibian species, 45 reptile species, 60 birds and 11 mammal species, were recorded during the survey (ENV Australia, 2012). All of the species recorded are typical of the Pilbara and the majority of them have been recorded previously (ENV Australia, 2012).

The proposed clearing area lies partly within an area surveyed for fauna for the FMG Stage B Rail Corridor (Biota, 2005). The survey also included surrounding mine areas, therefore covering a larger area than the rail corridor. The Biota fauna survey (2005) recorded 175 taxa of terrestrial vertebrate fauna belonging to 58 families, comprising two frogs, 42 reptiles, 105 birds, and 23 mammals including three bat species. The results of the survey were typical of other surveys in the region.

Two fauna habitats were identified by ENV Australia (2012) from the Christmas Creek study area which intersect the application area. The fauna habitats are as follows:

- Drainage Line; and
- Stony Plain.

The fauna habitat types identified within the application area extend well beyond the boundaries of the application area, and the proposed clearing area contains only a small percentage of the broader habitats.

There were nine weed species recorded within the application area (ENV Australia, 2013), none of which are weeds of National Significance (WONS) or Declared Plants under the *Biosecurity and Agriculture Management Act 2007*. Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

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

**Methodology** Biota (2005)  
CALM (2002)  
ENV Australia (2012)  
ENV Australia (2013)  
Mattiske (2007)  
Preston Consulting (2017)

GIS Database:  
- IBRA Australia  
- Imagery  
- Pre-European Vegetation  
- Threatened and Priority Ecological Communities boundaries  
- Threatened and Priority Flora

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

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

The following two fauna habitats have been recorded within the application area (ENV Australia, 2012):

- Drainage Line; and
- Stony Plain.

The 'Drainage Line' habitat occurs in a north to south direction within the application area due to the water flowing off the hills towards the Fortescue Marsh. The vegetation associated with the habitat is 'Woodland of *Eucalyptus victrix*, *Eucalyptus camaldulensis* and *Acacia aneura* over *Acacia pruinocarpa* and *Acacia tetragonophylla* over *Triodia* and *Themeda* species' (ENV Australia, 2012). The habitat was identified as 'moderate habitat value', as it contains mature *Eucalyptus* trees that are larger than trees in the surrounding plains and is likely to provide a movement corridor for some wildlife including birds, bats, large mammals (such as the Common Wallaroo) and wide-ranging reptiles, such as snakes and goannas (ENV Australia, 2012).

The 'Stony Plain' habitat consists of a Low Woodland of *Acacia aneura*, *Acacia pruinocarpa*, *Acacia tetragonophylla* and *Acacia xiphophylla* over *Triodia* and *Aristida* species. This habitat type contains limited microhabitats with the dominant *Acacia* species providing no tree hollows, few logs, limited leaf litter and sparse vegetation (ENV Australia, 2012). The Stony Plain habitat was identified as being of 'low habitat value' for fauna and was widespread in the surrounding area (ENV Australia, 2012).

Sixteen conservation significant fauna species were recorded or listed as possibly occurring in the vicinity of the ENV Australia (2012) study area. Of these, three species of conservation significance were recorded within the study area (ENV Australia, 2012). A single individual of the conservation significant species, the Pilbara Olive Python (*Liasis olivaceus barroni*) (Vulnerable), was recorded from degraded Drainage Line habitat.

Singles, pairs and a group of three individual Australian Bustard (*Ardeotis australis*) (Priority 4 – DBCA) were recorded widely throughout the study area. Small numbers of the Western Star Finch (*Neochimia ruficauda subclarescens*) (Priority 4 – DBCA) were recorded in Alluvial Plain and Drainage Line habitat near freestanding water.

The Pilbara Olive Python typically occupies rocky habitat (ENV Australia, 2012), it is unlikely this species will be impacted by the proposed clearing as this species' preferred habitat does not occur within the application area. The Australian Bustard is a highly mobile species, and is unlikely to be impacted by localized vegetation clearance (ENV Australia, 2012). The Western Star Finch is typically a resident species with a relatively small home range (ENV Australia, 2012). It typically inhabits permanent water bodies and drainage lines. As these features are not found within the application area, it is unlikely this species will be impacted by the proposed clearing.

The fauna habitat types identified within the application area extend well beyond the boundaries of the application area, and the proposed clearing area contain only a small percentage of the broader habitats. The 'Drainage Line' habitat was identified to be restricted, however, clearing within this habitat will be minimal and generally only for the development of access tracks of minimum widths (Preston Consulting, 2017). Fauna refuges such as logs will be pushed to the side of the clearing areas and retained where practicable (Preston Consulting, 2017).

The proposed clearing of 120 hectares within a total boundary of approximately 1,679 hectares is unlikely to have a significant impact on the local fauna habitats.

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

**Methodology** ENV Australia (2012)  
Preston Consulting (2017)

**(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 (ENV Australia, 2013; Preston Consulting, 2017).

The vegetation associations within the application area are common and widespread within the region (ENV Australia, 2013; GIS Database), and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened (rare) flora.

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

**Methodology** ENV Australia (2013)  
Preston Consulting (2017)

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 two Threatened Ecological Communities (TECs) in the Pilbara bioregion: the 'Themeda grasslands on cracking clays (Hamersley Station, Pilbara)' and the 'Ethel Gorge aquifer stygobiont community'. Neither TEC is located within or in close proximity to the application area (GIS Database).

Flora and vegetation surveys of the application area did not identify any TECs (ENV Australia, 2013; Mattiske, 2007).

The Fortescue Marsh Priority Ecological Community (Priority 1) is located approximately five kilometres to the south west of the nearest section of the application area (GIS Database), therefore the proposed clearing is unlikely to cause direct impacts to the PEC.

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

**Methodology** ENV Australia (2013)  
Mattiske (2007)

GIS Database:

- Threatened and Priority Ecological Communities boundaries
- Threatened and Priority Ecological Communities buffered

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

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

The application area falls within the Pilbara Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 99% of the pre-European vegetation still exists in the IBRA Pilbara Bioregion (Government of Western Australia, 2018). The application area is broadly mapped as Beard vegetation association 29: sparse low woodland, mulga (GIS Database). Approximately 99% 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 area (ha)* | Current extent (ha)* | Remaining %* | Conservation Status** | Pre-European % in DBCA managed lands |
|---|-------------------------|----------------------|--------------|-----------------------|--------------------------------------|
| IBRA Bioregion – Pilbara                          | 17,808,657              | 17,733,584           | 99           | Least Concern         | 10.12                                |
| Beard vegetation associations – WA                |                         |                      |              |                       |                                      |
| 29  | 7,903,991               | 7,900,200            | 99           | Least Concern         | 6.28                                 |
| Beard vegetation associations – Pilbara Bioregion |                         |                      |              |                       |                                      |
| 29  | 1,133,220               | 1,132,939            | 99           | Least Concern         | 9.38                                 |

\* 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 be cleared (GIS Database; Preston Consulting, 2017). Several small un-named ephemeral watercourses are located within the application area, which drain into the Fortescue Marsh (GIS Database).

The proposed clearing includes activities that will have a potential impact on vegetation growing in, or in association with, an environment associated with a watercourse. Proposed access tracks may traverse narrow areas of vegetation associated with ephemeral watercourses, although impact to riparian vegetation is likely to be low as access tracks are restricted in width and vehicles will travel in low speeds to traverse safely.

The proponent has advised that clearing activities will be restricted to minimum widths in riparian zones and existing roads will be used for major access across watercourses, to minimise impact on riparian vegetation (Preston Consulting, 2017).

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

**Methodology** Preston Consulting (2017)

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 Jamindie and Turee 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 Jamindie land system is described as stony hardpan plains and rises supporting groved mulga shrublands, occasionally with spinifex understorey (Van Vreeswyk et al., 2004). Most parts of this land system are inherently resistant to erosion (Van Vreeswyk et al., 2004). Some hardpan units are slightly susceptible to erosion and drainage tracts are moderately susceptible to erosion (Van Vreeswyk et al., 2004). There are several drainage lines which pass through the permit area and have a higher risk of erosion (GIS Database), however, due to the minimal proposed disturbance within these areas it is unlikely the proposed clearing will increase the amount of erosion.

The Turee land system is described as stony alluvial plains with gilgaed and non-gilgaed surfaces supporting tussock grasslands and grassy shrublands. This land system is not generally susceptible to erosion (van Vreeswyk et al., 2004), particularly stony plains.

The proposed clearing for a transmission line is linear in nature and is not likely to cause significant land degradation at a local level. Potential impacts in areas that may have an increased risk of erosion such as drainage lines may be minimised by the implementation of a watercourse management condition.

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 an area of the former Roy Hill Pastoral Lease which is located approximately 4.5 kilometres south-west of the application area at its western end (GIS Database).

The proposed clearing for a transmission line 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 permanent watercourses or wetlands within the area proposed to clear (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. The proposed clearing is unlikely to result in significant changes to surface water flows.

The groundwater within the application area is between 500 – 1,000 milligrams per litre of Total Dissolved Solids (TDS) (GIS Database). This is considered to be fresh water. It would not be expected that the proposed clearing would cause salinity levels within the application or surrounding area to alter.

The proposed clearing is unlikely to cause deterioration in the quality 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:

- Groundwater Salinity, Statewide
- Hydrography, Linear
- Public Drinking Water Source Areas

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

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

The climate of the region is semi-arid, with a low average rainfall of approximately 332.6 millimetres per year (BOM, 2018). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (Preston Consulting, 2017).

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)  
Preston Consulting (2017)

GIS Database:  
- Hydrography, linear

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

**Comments**

The clearing permit application was advertised on 18 December 2017 by the Department of Mines and Petroleum (now 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 over the area under application (DPLH, 2018). 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**

- Biota (2005) Fauna Habitats and Fauna Assemblage of the Proposed FMG Stage B Rail Corridor and Mindy Mindy, Christmas Creek, Mt Lewin and Mt Nicholas Mine Areas. Report prepared for Fortescue Metals Group Limited, by Biota Environmental Sciences Pty Ltd.
- BOM (2018) Climate statistics for Australia locations – Newman Aero, Bureau of Meteorology. [www.bom.gov.au/climate/averages/tables/cw\\_007176.shtml](http://www.bom.gov.au/climate/averages/tables/cw_007176.shtml) (Accessed 2 August 2018).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- 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.
- DPLH (2018) Aboriginal Heritage Enquiry System. Department of Planning, Lands and Heritage. <http://maps.daa.wa.gov.au/AHIS/> (Accessed 2 August 2018).
- ENV Australia (2012) Christmas Creek Terrestrial Vertebrate Fauna and Fauna Habitat Assessment. Report prepared for Fortescue Metals Group Limited, by ENV Australia Pty Ltd, 2012.
- ENV Australia (2013) Christmas Creek Life of Mine Flora and Vegetation Assessment. Report prepared for Fortescue Metals Group Limited, by ENV Australia Pty Ltd, December 2013.
- 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>

- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Mattiske (2007) Flora and Vegetation Near Fortescue Marshes. Report prepared for Fortescue Metals Group Limited, by Mattiske Consulting Pty Ltd, June 2007.
- Preston Consulting (2017) Native Vegetation Clearing Permit Application, Roy Hill to Christmas Creek Transmission Line – Supporting Information. Report prepared for Alinta Energy Transmission (Roy Hill) Pty Ltd, by Preston Consulting Pty Ltd, 12 October 2017.
- 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.

## 5. Glossary

### Acronyms:

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

### Definitions:

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

|           |  |
|-----------|--|
| <b>T</b>  | <p><b>Threatened species:</b><br/>Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i>, 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).</p> <p><b>Threatened fauna</b> is that subset of ‘Specially Protected Fauna’ declared to be ‘likely to become extinct’ pursuant to section 14(4) of the <i>Wildlife Conservation Act 1950</i>.</p> <p><b>Threatened flora</b> 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 <i>Wildlife Conservation Act 1950</i>.</p> <p>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.</p> |
| <b>CR</b> | <p><b>Critically endangered species</b><br/>Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i>, in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.</p>  |



- 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.