



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8834/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Fortescue Metals Group Ltd

1.3. Property details

Property: Miscellaneous Licences 45/459, 45/461, 45/463, 45/464, 45/465, 45/469, 47/847, 47/914
Local Government Area: Shire of Ashburton, Shire of East Pilbara, Town of Port Hedland
Colloquial name: Pilbara Transmission Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
90.3		Mechanical Removal	Powerline and Associated Infrastructure

1.5. Decision on application

Decision on Permit Application:
Decision Date:

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:

29: Sparse low woodland; mulga, discontinuous in scattered groups;
82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*;
93: Hummock grasslands, shrub steppe; kanji over soft spinifex;
111: Hummock grasslands, shrub steppe; *Eucalyptus gamophylla* over hard spinifex;
173: Hummock grasslands, shrub steppe; kanji over soft spinifex & *Triodia wiseana* on basalt;
175: Short bunch grassland - savanna/grass plain (Pilbara);
562: Mosaic: Low woodland; mulga in valleys / Hummock grasslands, open low tree-steppe; snappy gum over *Triodia wiseana*;
619: Medium woodland; river gum (*Eucalyptus camaldulensis*).

There has been numerous flora and vegetation surveys undertaken which cover areas of the permit boundary. A desktop review of the previous surveys has consolidated the vegetation mapping that covers the permit area (Ecoscape, 2018). The following 77 vegetation communities have been mapped within the permit area (FMG, 2019):

AaApAI: *Corymbia hamersleyana*, *Acacia aff. aneura* (narrow fine veined: site 1, 259) and *Acacia pruinocarpa* low open forest, over *Acacia pteraneura* and *Dodonaea petiolaris* mid sparse shrubland and *Maireana villosa* low sparse shrubland, over *Aristida latifolia*.

AaAvCc: *Acacia aneura*, *Acacia pruinocarpa* and *Hakea lorea subsp. lorea* tall sparse shrubland over *Acacia victoriae* and *Senna artemisioides subsp. oligophylla* mid sparse shrubland over *Cenchrus ciliaris* tussock grassland.

AacrS2: *Acacia acradenia* and *Acacia inaequilatera* Tall Open Shrubland over a Hummock Grassland of *Triodia schinzii*.

AaEICf: *Acacia aneura* tall shrubland over *Eremophila lanceolata*, *Sida sp. verrucose glands* (F.H. Mollemans 2423) and *Solanum lasiophyllum* mid sparse shrubland over *Chrysopogon fallax* and *Aristida contorta* sparse tussock grassland.

AaElfTe: *Acacia aneura* and *Acacia pruinocarpa* tall open shrubland over *Eremophila latrobei subsp. filiformis* and *Dodonaea petiolaris* mid sparse shrubland over *Triodia epactia* hummock grassland.

AalmTe: *Acacia aneura* and *Acacia pruinocarpa* tall shrubland, over *Acacia ancistrocarpa* and *Eremophila longifolia* mid sparse shrubland, over *Indigofera monophylla* and *Sida sp. verrucose glands* (F.H. Mollemans 2423) low sparse shrubland, over *Cenchrus ciliaris*.

AancS3: *Acacia ancistrocarpa* Open Shrubland to Open Heath over Hummock Grassland of *Triodia lanigera*, *Triodia epatica* and *Triodia angusta*.

****AaPsCf:** *Acacia aptaneura* open shrubland, over low *Abutilon otocarpum* sparse shrubland, over *Pterocaulon sphacelatum* and *Ptilotus obovatus* open forbland, over open *Chrysopogon fallax* tussock grassland.

AaSfAl: *Acacia aptaneura* open shrubland, over low *Sida fibulifera* sparse shrubland, over *Aristida latifolia* and *Chrysopogon fallax* tussock grassland.

AaTe: *Acacia acradenia*, *Acacia ancistrocarpa* and *Acacia tumida* var. *pilbarensis* tall open shrubland over *Triodia epactia*, *Triodia* aff. *lanigera* and *Triodia wiseana* mid open hummock grassland.

AbAsTe: *Acacia bivenosa*, *Grevillea wickhamii* subsp. *aprica* and *Acacia maitlandii* mid sparse shrubland, over *Acacia stellaticeps* low isolated shrubs, over *Triodia* aff. *epactia* and *Triodia* aff. *basedowii* sparse hummock grassland.

AbHcTw: *Acacia bivenosa*, *Senna artemisioides* subsp. *oligophylla*, *Senna glutinosa* subsp. *glutinosa* x *luerssenii* mid open shrubland, over *Acacia inaequilatera*, *Senna artemisioides* subsp. *oligophylla* and *Heliotropium chrysocarpum* low sparse shrubland, over *Triodia*.

AbTb: *Acacia bivenosa* mid sparse shrubland, over *Triodia brizoides* closed hummock grassland.

Ac1: *Eucalyptus victrix*, *Melaleuca argentea* low woodland to low open woodland.

Ac11: *Corymbia* spp. scattered low trees over *Acacia tumida*, *A. coleii* open scrub over *Triodia epactia* hummock grassland.

Ac12: *Corymbia hamersleyana* scattered low trees over *Acacia tumida* high shrubland over *Triodia lanigera*, *T. epactia* mid-dense hummock grassland.

Ac15: *Eucalyptus victrix* low open woodland to woodland over *Acacia coleii* scattered tall shrubs to high open shrubland over *Triodia epactia* scattered hummock grasses and *Eriachne* spp. tussock grasses.

Ac19: *Corymbia hamersleyana* scattered low trees over *Acacia ampliceps*, *A. tumida* high shrubland over *Triodia lanigera*, *T. epactia* mid-dense hummock grassland.

Ac2: *Eucalyptus camaldulensis* scattered low trees over *Melaleuca argentea* low open forest over *Melaleuca linophylla*, *Acacia ampliceps* high shrubland.

Ac21: *Acacia ampliceps* open scrub over *Triodia secunda* hummock grassland.

Ac8: *Eucalyptus victrix* scattered low trees over *Acacia trachycarpa* open scrub over *Triodia epactia* mid-dense hummock grassland or **Cenchrus ciliaris* open to closed tussock grassland.

Ac8/Ac1: *Eucalyptus victrix* scattered low trees over *Acacia trachycarpa* open scrub over *Triodia epactia* mid-dense hummock grassland or **Cenchrus ciliaris* open to closed tussock grassland / *Eucalyptus victrix*, *Melaleuca argentea* low woodland to low open woodland.

Ah1: *Acacia inaequilatera* scattered tall shrubs over *Triodia wiseana* hummock grassland to mid-dense hummock grassland.

Ah5: *Corymbia hamersleyana* scattered low trees over *Triodia* aff. *basedowii* mid-dense to closed hummock grassland.

AhGwTe: *Atalaya hemiglauc*a low open woodland over *Grevillea wickhamii*, *Acacia pyriformis* mid open shrubland over *Corchorus lasiocarpus*, *Indigofera monophylla*, *Tephrosia rosea* var. *Fortescue creeks* (M.I.H. Brooker 2186) low sparse shrubland over **Cenchrus ciliaris*.

AiGwTp: *Acacia inaequilatera* and *Acacia ancistrocarpa* tall sparse shrubland over *Grevillea wickhamii* mid sparse shrubland over *Senna artemisioides* subsp. *oligophylla* low sparse shrubland over *Triodia pungens* hummock grassland.

AiSaoTw: *Acacia inaequilatera*, *Acacia ancistrocarpa* and *Acacia bivenosa* tall sparse shrubland, over *Senna artemisioides* subsp. *oligophylla* x *helmsii* mid sparse shrubland, over *Triodia wiseana* and *Triodia epactia* open hummock grassland.

AoAbTI: *Acacia orthocarpa* and *Acacia trachycarpa* tall open shrubland, over *Acacia bivenosa* *Acacia stellaticeps* and *Acacia pyriformis* var. *pyriformis* mid sparse shrubland, over *Triodia longiceps* and *Triodia epactia* hummock grassland.

ApAaTe: *Acacia pruinocarpa* and *Hakea lorea* subsp. *lorea* tall sparse shrubland over *Acacia atkinsiana* mid sparse shrubland over *Hibiscus sturtii* and *Senna glutinosa* subsp. *glutinosa* low sparse shrubland over *Triodia epactia* hummock grassland.

ApAatSEngTe: *Acacia pruinocarpa*, *Hakea lorea* subsp. *lorea* tall sparse shrubland over *Acacia atkinsiana* mid sparse shrubland over *Senna glutinosa* subsp. *glutinosa* mid sparse shrubland over *Triodia epactia* mid hummock grassland.

ApDpTe: *Acacia* aff. *aneura* (narrow fine veined; site 1259) and *Acacia pteraneura* and *Acacia pruinocarpa* low woodland, over *Dodonaea petiolaris*, *Grevillea berryana* and *Eremophila forrestii* subsp. *forrestii* mid sparse shrubland, over *Enneapogon polyphyllus*.

Aps2: *Acacia orthocarpa* high shrubland to open scrub over *Triodia lanigera* mid-dense hummock grassland.

Aps2/Aps3: *Acacia orthocarpa* high shrubland to open scrub over *Triodia lanigera* mid-dense hummock grassland / *Acacia orthocarpa* high open shrubland to high shrubland over *Triodia wiseana* mid-dense hummock grassland.

Aps8: *Acacia maitlandii* open scrub over *Triodia lanigera* mid-dense hummock grassland.

Apt1: *Triodia epactia*, *T. secunda* mid-dense hummock grassland.

Apt11: *Acacia* spp. scattered tall shrubs over *A. stellaticeps* low open shrubland over *Triodia lanigera* hummock grassland.

Apt12: *Acacia orthocarpa* high shrubland to open scrub over *Triodia lanigera* mid-dense hummock grassland.

Apt13: *Acacia ancistrocarpa* open shrubland to open heath over *Triodia lanigera* hummock grassland.

Apt13/Ah1: *Acacia ancistrocarpa* open shrubland to open heath over *Triodia lanigera* hummock grassland / *Acacia inaequilatera* scattered tall shrubs over *Triodia wiseana* hummock grassland to mid-dense hummock grassland.

Apt15: *Acacia inaequilatera*, *A. ancistrocarpa* scattered tall shrubs over *Triodia epactia*, *T. lanigera* hummock grassland.

Apt4: *Triodia longiceps*, *T. epactia* mid-dense hummock grassland.

Apt4/Apt1: *Triodia longiceps*, *T. epactia* mid-dense hummock grassland / *Triodia epactia*, *T. secunda* mid-dense hummock grassland.

Apt5: *Triodia angusta* mid-dense hummock grassland.

Ar1/Ar2/Ar3/Ar4: *Ficus brachypoda*, *Flueggea virosa* subsp. *melanthesoides*, *Terminalia canescens*, *Clerodendrum* spp. scattered shrubs over *Triodia epactia* hummock grassland and **Cenchrus ciliaris* tussock grassland / *Acacia tumida* high shrubland to open scrub over *Triodia epactia* hummock Grassland / *Tripogon loliiformis* dwarf open grassland / *Bulbostylis burbidgeae* sedgeland.

AtCcTI: *Acacia trachycarpa*, *Atalaya hemiglauca*, *Acacia coriacea* subsp. *pendens* tall open shrubland, over *Crotalaria cunninghamii* and *Acacia pyrifolia* var. *pyrifolia* mid sparse shrubland, over *Triodia longiceps* sparse hummock grassland and **Cenchrus ciliaris*.

AtTI: *Atalaya hemiglauca*, *Acacia xiphophylla* and *Acacia trachycarpa* tall shrubland, over *Triodia longiceps* and *Triodia wiseana* sparse hummock grassland.

AxAval: *Hakea lorea* subsp. *lorea* *Acacia tetragonophylla* and *Acacia xiphophylla* tall sparse shrubland, over *Acacia victoriae* mid sparse shrubland, over *Aristida latifolia* and *Chrysopogon fallax* sparse tussock grassland, and *Triodia epactia* sparse tussock grassland.

AxEx: *Acacia xiphophylla*, *Acacia synchronica* and *Acacia victoriae* tall open shrubland, over *Eragrostis xerophila*, *Eragrostis leptocarpa* and **Cenchrus ciliaris* sparse tussock grassland.

AxSaoTI: *Acacia xiphophylla* and *Acacia* aff. *aneura* (narrow fine veined; site 1259) tall open shrubland, over *Senna artemisioides* subsp. *oligophylla* x *helmsii* and *Senna glutinosa* subsp. *glutinosa* mid sparse shrubland, over *Triodia longiceps* sparse hummock grassland.

ChAdTe1: *Corymbia hamersleyana* low sparse woodland, over *Acacia dictyophleba* mid sparse shrubland, over *Triodia epactia* hummock grassland.

ChAiTw: *Corymbia hamersleyana* and/ or *E. leucophloia* subsp. *leucophloia* low open woodland over *Acacia inaequilatera* and/ or *A. bivenosa* mid sparse shrubland over *Triodia wiseana* low open hummock grassland.

ChAiTw2: *Corymbia hamersleyana* and *Eucalyptus leucophloia* subsp. *leucophloia* low sparse woodland over *Acacia inaequilatera* and *Grevillea wickhamii* tall sparse shrubland over *Triodia wiseana* hummock grassland.

ChAiTw4: *Corymbia hamersleyana* low sparse woodland, over *Acacia inaequilatera* tall sparse shrubland over *Senna glutinosa* subsp. *glutinosa* mid sparse shrubland over *Triodia wiseana* hummock grassland.

ChAoCf: *Corymbia hamersleyana* low woodland over Tall *Acacia aptaneura* open shrubland, over low *Abutilon otocarpum* sparse shrubland, over *Pterocaulon sphacelatum* and *Ptilotus obovatus* open forbland, over open *Chrysopogon fallax* tussock grassland.

ChApTe1: *Corymbia hamersleyana* low sparse woodland, *Acacia pyrifolia* and *Acacia tumida* var. *pilbarensis* mid sparse shrubland over *Triodia epactia* closed hummock grassland.

ChApTe2: *Corymbia hamersleyana* low sparse woodland over *Acacia pyrifolia* tall sparse shrubland over *Triodia epactia* hummock grassland.

ChApyTHtTe: *Corymbia hamersleyana* low open woodland over *Acacia pyrifolia* and/ or *A. tumida* var. *pilbarensis* mid sparse shrubland occasionally over *Gossypium australe* low sparse shrubland over *Themeda triandra* open tussock grassland over *Triodia epactia* mid open hummock grassland.

EcApCa: *Eucalyptus camaldulensis* and *Melaleuca argentea* low woodland over *Acacia pyrifolia* tall sparse

shrubland over *Tephrosia rosea* and *Corchorus crozophorifolius* mid sparse shrubland over *Cymbopogon ambiguus* open tussock grassland.

EgAatAtuTe: *Eucalyptus gamophylla* low open mallee woodland over *Acacia atkinsiana*, *A. tumida* var. *pilbarensis* and/or *A. bivenosa* and *Senna artemisioides* subsp. *oligophylla* mid sparse shrubland over *Themeda triandra* mid sparse tussock grassland over *Triodia epactia*.

EgAaTe4: *Eucalyptus gamophylla* low sparse woodland over *Acacia atkinsiana* and *Acacia tumida* var. *pilbarensis* mid sparse shrubland over *Triodia epactia* hummock grassland and *Themeda triandra* tussock grassland.

EIAbTw: *Eucalyptus leucophloia* subsp. *leucophloia* low open woodland over *Acacia bivenosa* mid sparse shrubland over *Triodia wiseana* mid closed hummock grassland.

EIAdAadTw: *Eucalyptus leucophloia* subsp. *leucophloia*, *Corymbia hamersleyana* low open woodland over *Acacia dictyophleba* and/or *A. tenuissima* and *A. cowleana* mid sparse shrubland over *A. adoxa* var. *adoxo* low sparse shrubland over *Triodia wiseana* mid hummock grassland.

EIIAItw: *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana* low sparse woodland over *Acacia inaequilatera* tall sparse shrubland over *Acacia bivenosa* and *Senna glutinosa* subsp. *glutinosa* mid sparse shrubland over *Ptilotus calostachyus* low sparse shrubland.

EIIAmTe: *Eucalyptus leucophloia* subsp. *leucophloia* low open woodland, over *Acacia monticola*, *Acacia spondylophylla* and *Acacia bivenosa* mid sparse shrubland, over *Triodia epactia* open hummock grassland.

EIIHcTw4: *Eucalyptus leucophloia* subsp. *leucophloia* low sparse woodland over *Hakea chordophylla* tall sparse shrubland over *Senna glutinosa* subsp. *glutinosa* mid sparse shrubland over *Triodia wiseana* closed hummock grassland.

EIIHItw: *Eucalyptus leucophloia* subsp. *leucophloia* low sparse woodland over *Hakea lorea* subsp. *lorea* tall sparse shrubland over *Acacia atkinsiana*, *Acacia bivenosa* and *Acacia maitlandii* mid sparse shrubland, over *Ptilotus calostachyus* low sparse shrubland.

EoApAl: *Eriachne obtusa*, *Astrebla pectinata* and *Aristida latifolia* open tussock grassland.

***EvAcCc:** *Eucalyptus victrix* low closed woodland *Acacia aneura* and *Acacia citrinoviridis* tall sparse shrubland over *Acacia victoriae* mid sparse shrubland over **Cenchrus ciliaris* tussock grassland.

***EvAcEa:** *Eucalyptus victrix* mid open woodland, over *Acacia citrinoviridis* tall sparse shrubland, over *Atalaya hemiglauc*a and *Acacia tetragonophylla* mid sparse shrubland, over *Eriachne benthamii* and *Eulalia aurea* open tussock grassland.

EvAcpCv: *Eucalyptus victrix*, *Eucalyptus camaldulensis* subsp. *obtus*e and *Melaleuca glomerata* mid woodland, over *Acacia coriacea* subsp. *pendens* and *Acacia trachycarpa* tall sparse shrubland, over *Cyperus vaginatus* open sedgeland.

EvAppTt: *Eucalyptus victrix* mid woodland, over *Acacia pyriformis* var. *pyriformis*, *Acacia maitlandii* and *Acacia tumida* var. *pilbarensis* mid sparse shrubland, over *Triodia epactia* sparse hummock grassland and *Themeda triandra* sparse tussock grassland.

ExAaCv: *Eucalyptus xerothermica* low isolated trees, over *Acacia ampliceps*, *Acacia coriacea* subsp. *pendens* and *Melaleuca glomerata* tall sparse shrubland, over *Cyperus vaginatus* sparse sedgeland and *Triodia longiceps* sparse hummock grassland.

ExAcpTe: *Eucalyptus victrix* and *Eucalyptus xerothermica* low open woodland, over *Acacia coriacea* subsp. *pendens*, *Acacia ampliceps* and *Acacia trachycarpa* tall open shrubland, over *Cyperus vaginatus* sparse sedgeland and *Triodia epactia* sparse hummock grassland.

IIIAvCf: *Hakea lorea* subsp. *lorea* and *Atalaya hemiglauc*a tall sparse shrubland over *Acacia victoriae* mid sparse shrubland over *Chrysopogon fallax* and *Eulalia aurea* tussock grassland.

TepTlaHG1: *Triodia angusta* and *Triodia lanigera* Hummock Grassland with scattered *Acacia stellaticeps*.

TepTloHG1: *Triodia epactia* and *Triodia longiceps* Open Hummock to Closed Hummock Grassland.

VfAl: *Vachellia farnesiana* sparse shrubland, over *Aristida latifolia*, *Eriachne benthamii* grassland.

*Denotes Groundwater Dependent or Potential Groundwater Dependent Vegetation

**Denotes Sheet Flow Dependent Vegetation

There were also parts of the permit area mapped as cleared, not assessed and unmapped.

Clearing Description

Pilbara Transmission Project.

Fortescue Metals Group Ltd proposes to clear up to 90.3 hectares of native vegetation within a boundary of approximately 1,752.7 hectares, for the purpose of constructing a 220 kV power transmission line. The project spans over 170 kilometres and runs from approximately 57 kilometres north of Tom Price to 26 kilometres south of Port Hedland, within the Shires of Ashburton, East Pilbara and Town of Port Hedland..

Vegetation Condition

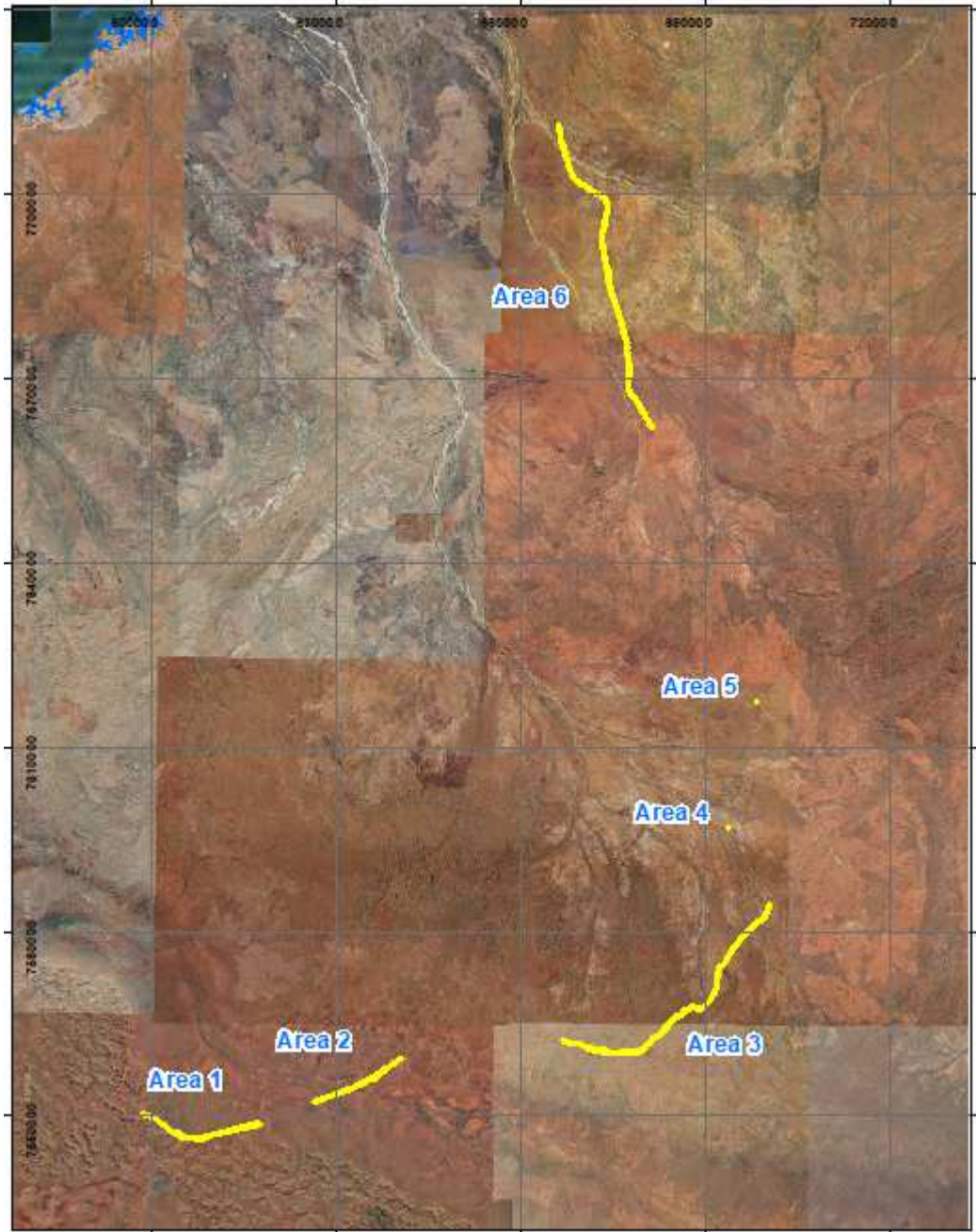
Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).

To

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

Comment

The proposed clearing is for the construction of a 220 kV power transmission line. FMG has indicated that the majority of the clearing (approximately 80.1 hectares) will be lower impact clearing, being targeted removal and pruning of tall vegetation to ensure that specified clearances between vegetation and powerlines are maintained. The remaining areas will be cleared for power pole pads and access tracks (FMG, 2019).



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 area crosses three subregions (Chichester, Fortescue and Hamersley) of the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) Bioregion (GIS Database).

Flora and vegetation surveys that have covered the permit area have identified 77 vegetation units within the permit area (FMG, 2019). Given the permit area is a linear area that spans over 170 kilometres, it is expected that it would contain a large number of vegetation communities. None of these vegetation communities were considered to be a Threatened Ecological Community (Ecoscape, 2018; FMG, 2019). Area 3 of the permit boundary transects locations of the 'Four Plant Assemblages of the Wona Land System' Priority Ecological

Community (PEC) (FMG, 2019; GIS Database). It has not been identified which of the assemblages of this PEC are present within the permit area. There is 81.3 hectares of the PEC within the permit area (FMG, 2019; GIS Database). The mapped area of this instance of the PEC, totals over 9,500 hectares and there are several other locations of this PEC in the Pilbara bioregion (GIS Database). However, this PEC has four separate subcategories and some are more restricted than others. The proposed powerline corridor will impact on 2.9 hectares of the PEC (FMG, 2019). Given the relatively small amount of the PEC within the permit area, the proposed clearing is not likely to have a significant impact on this PEC.

The consolidated flora information (which covers a much larger area than the permit boundary) included a total of 495 flora taxa from 179 genera and 58 families (Ecoscape, 2018). Given the distance the permit area spans and the variety of habitats it crosses, a high diversity of flora species would be expected. There are no records of Threatened flora species within the permit area (Ecoscape, 2018; FMG, 2019; GIS Database). There were four species of Priority flora recorded within the permit area; *Abutilon* sp. Pritzelianum (Priority 3), *Gymnanthera cunninghamii* (Priority 3), *Heliotropium muticum* (Priority 3) and *Bulbostylis burbidgeae* (Priority 4) (FMG, 2019).

Abutilon sp. Pritzelianum was recorded from two locations within the permit area (FMG, 2019). There are 46 records of this species at the Western Australian Herbarium (2020) from three different bioregions. *Gymnanthera cunninghamii* and *Heliotropium muticum* were both recorded within the permit area from four locations and *Bulbostylis burbidgeae* was recorded from nine locations (FMG, 2019). All of these locations are from Area 6 of the permit boundary. *Gymnanthera cunninghamii* is widespread in the State with records from four different bioregions (Western Australian Herbarium, 2020). *Heliotropium muticum* has only been recorded from the Pilbara bioregion however, there are 73 records of this species lodged at the Western Australian Herbarium (2020). *Bulbostylis burbidgeae* is also only known from the Pilbara bioregion and has 34 records lodged at the Western Australian Herbarium (2020). FMG (2019) has indicated that the proposed powerline route has been designed to avoid the known locations of these species. The proposed clearing is not likely to have a significant impact on these Priority flora species.

The permit area passes over nine fauna habitats which contain a diversity of microhabitats and have the potential to support a diverse range of fauna species (Spectrum Ecology, 2018; FMG, 2019). The proposed clearing spans an area over 170 kilometres and will only impact a small amount of habitat at each location. The proposed clearing is not expected to have a significant impact on fauna diversity in the local area.

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

Methodology CALM (2002)
Ecoscape (2018)
FMG (2019)
Spectrum Ecology (2018)
Western Australian Herbarium (2020)

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

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

Comments Proposal may be at variance to this Principle

There has been numerous fauna surveys undertaken which cover areas of the permit boundary. A desktop review of the previous surveys has consolidated the habitat mapping and fauna records within the permit area (Spectrum Ecology, 2018). The following fauna habitats have been mapped within the permit area (FMG, 2019):

- Granite outcrops
- Loamy/stony plain with mixed shrubland
- Major river
- Minor creekline
- Minor drainage line
- Mulga woodland
- Sandy/loamy plain with spinifex grassland
- Sandy/loamy plain with mixed shrubland
- Stony plains and low rises with hummock grassland.

There were also areas mapped as cleared which were associated with the rail, access tracks and existing cleared areas (FMG, 2019). The most common habitat is the 'stony plains and low rises with hummock grassland' followed by cleared areas and the 'sandy/loamy plain with mixed spinifex grassland' habitats (FMG, 2019). Together these three habitats cover approximately 88% of the permit area (FMG, 2019).

The vegetation of the 'stony plains and low rises with hummock grassland' habitat is typically dense *Triodia* hummock grassland with scattered mixed shrubs and is often intersected by minor drainage lines (Spectrum Ecology, 2018). The substrate present within this habitat typically does not attract the construction of burrows with the exception of small reptiles which dig shallow burrows (Spectrum Ecology, 2018). Fauna species within this habitat typically utilise the hummock grasslands and the scattered shrubs for shelter and food resources (Spectrum Ecology, 2018). This habitat is not likely to represent significant habitat for fauna species in the permit area.

The 'sandy/loamy plain with mixed spinifex grassland' is dominant in the northern section of the permit area and is dominated by hummock grasses with patches of low to moderate shrubs (Spectrum Ecology, 2018). This habitat is predominately inhabited by species that use the spinifex grasses as shelter or burrow into the substrate as it is often soft and sandy, allowing for the construction of burrows (Spectrum Ecology, 2018). The significance of this habitat is closely dependent on the fire history. Areas that retain a mosaic of fire ages often provide the best habitat as it provides a variety of good foraging area in newly burnt areas, and good shelter or breeding areas within the long, unburnt vegetation. The conservation significant species Bilby (*Macrotis lagotis* – Vulnerable) and Brush-tailed Mulgara (*Dasyercus blythi* – Priority 4) have both been recorded from this habitat (FMG, 2019; Spectrum Ecology, 2018).

The 'major river' habitat is of greater significance as it contains a diversity of microhabitats, acts a dispersal corridor and has the potential to support greater numbers of individuals. The adjacent floodplains and small islands in the middle of the river can form ideal habitat for burrowing species and following flooding there are often small to large pools of water for extended periods (Spectrum Ecology, 2018). The large trees including hollow logs and branches can provide shelter for a variety of species and the large surface water pools which form after heavy rainfall result in increased humidity levels and an accumulation of food resources (Spectrum Ecology, 2018). Within the permit area, this habitat is associated with Coonarie Creek and Turner River (GIS Database). There is 15.4 hectares of this habitat mapped within the permit area (FMG, 2019).

The 'minor creekline' habitat is similar to the 'major river' habitat in that there are sandy areas often suitable for burrow construction and small pools of water often accumulate after heavy rainfall creating increased food resources (Spectrum Ecology, 2018). Fauna will often utilise areas of dense vegetation for shelter however, habitats associated with large trees and hollows is much more limited (Spectrum Ecology, 2018). There is 45.1 hectares of this habitat mapped within the permit area (FMG, 2019).

The vegetation of the 'granite outcrops' habitat is typically sparse and comprises of some low shrubs (Spectrum Ecology, 2018). However, the habitat is typically associated with a unique fauna assemblage that finds shelter in the crevices created by exfoliated granite slabs and crevices located between the granite boulders (Spectrum Ecology, 2018). Due to the lack of dense vegetation and their position in the landscape, this habitat is also relatively protected from fires and can form refuges following fire events (Spectrum Ecology, 2018). There was 8.9 hectares of this habitat mapped within the permit area (FMG, 2019).

There are several fauna species of conservation significance which have been recorded or have the potential to utilise habitat within the permit area (FMG, 2019; Spectrum Ecology, 2018). The Bilby, Brush-tailed Mulgara, Northern Quoll (*Dasyurus hallucatus* – Endangered), Grey Falcon (*Falco hypoleucos* - Vulnerable), Pilbara Leaf-nosed Bat (*Rhinonictis aurantia* – Vulnerable), Western Pebble-mound Mouse (*Pseudomys chapmani* – Priority 4) and Common Sandpiper (*Actitis hypoleucos* - Migratory) have all been recorded within the permit boundary (Spectrum Ecology, 2018).

The Bilby was recorded from 15 locations within the permit area (FMG, 2019; Spectrum Ecology, 2018). The Bilby was recorded within the 'sandy/loamy plain with mixed spinifex grassland' habitat but may also utilise parts of the 'sandy/loamy plains with mixed shrubland', 'major river', 'minor drainage line' and 'minor creekline' habitats (Spectrum Ecology, 2018). The majority of the records within the permit area are from within the 'sandy/loamy plain with mixed spinifex grassland' habitat (FMG, 2019). There is a high variability in the suitability of the habitat across the range based on suitability for burrowing, availability of food resources, fire history and the presence of introduced animals (Spectrum Ecology, 2018). Some areas may be used only for dispersal rather than longer term residency (Spectrum Ecology, 2018). All of the records of Bilbies were within Area 6 of the permit boundary.

The Brush-tailed Mulgara was recorded as a permanent resident within the permit area and can be relatively abundant in suitable patches of the 'sandy/loamy plains with spinifex grassland habitat type' (Spectrum Ecology, 2018). There were 34 records of the Brush-tailed Mulgara within the permit area, all but one of which was within Area 6 of the permit boundary.

There are 45 records of the Northern Quoll within the permit area (Spectrum Ecology, 2018). The large majority of these were from areas associated with creekline and river habitat, suggesting that these areas are significant for dispersal and foraging for the Northern Quoll. The granite outcrop habitat also has the potential for denning/breeding as well as foraging for this species (Spectrum Ecology, 2018).

The Pilbara-leaf nosed Bat was recorded from two locations within the permit area, both associated with the 'major river' habitat (Spectrum Ecology, 2018). This habitat is used for foraging and dispersal. No areas of roosting habitat have been identified within the permit area (Spectrum Ecology, 2018).

The permit area is situated adjacent to an existing rail line and approximately 531 hectares of the permit area has been mapped as previously cleared (Spectrum Ecology, 2018). The design and placement of power poles and access tracks has been considered to avoid watercourses, drainage lines, creeklines and granite outcrops where possible (FMG, 2019). The proposed clearing is unlikely to impact any fauna species at a regional scale. However, the clearing may directly impact individual fauna, and at a local scale by reduction of appropriate habitat. Potential impacts to the Bilby and Brush-tailed Mulgara as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

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

Methodology FMG (2019)
Spectrum Ecology (2018)

GIS Database:
- Hydrography, linear

(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 permit area (GIS Database). Flora surveys of the permit area did not record any species of Threatened flora (Ecoscape, 2018; FMG, 2019). Threatened flora species known from the Pilbara are not likely to be present within the permit area 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 Ecoscape (2018)
FMG (2019)

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 permit area (GIS Database).

The flora and vegetation surveys over the permit area have not identified any TECs (Ecoscape, 2018).

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

Methodology Ecoscape (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 Pilbara Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 99.57% of the pre-European vegetation still exists in the Pilbara Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation associations 29, 82, 93, 111, 173, 175, 562 and 619 (GIS Database). These vegetation associations have not been extensively cleared as over 99% of the pre-European extent of each of these vegetation associations remains uncleared at both the state and bioregional level (Government of Western Australia, 2019). The permit area does not contain any remnants nor does it form part of any remnants in the local area (GIS Database).

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

Methodology Government of Western Australia (2019)

GIS Database:
- IBRA Australia
- Imagery
- Pre-European Vegetation

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

Comments Proposal is at variance to this Principle

There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). The permit area intersects two significant rivers, the Fortescue River and Turner River (GIS Database). It also intersects numerous minor ephemeral watercourses across the length of the permit area (GIS Database). The vegetation communities EvAcCc and EvAcEa were identified as being potential groundwater dependent vegetation (FMG, 2019).

Areas of vegetation associated with major rivers and creeklines were identified as higher value fauna habitat as they tend to contain a diversity of microhabitats, can have ephemeral water pools and act as a corridor for dispersal (Spectrum Ecology, 2018).

The clearing of riparian vegetation has the potential to cause localised erosion and degrade faunal habitats. However, given the proposed clearing is spread over a large area, it is not anticipated that it will have a significant impact on minor drainage lines within the application areas. Provided disturbance to riparian habitats is avoided or minimised where possible, and weed hygiene procedures are followed, the proposed works are not expected to substantially impact these vegetation units. Potential impacts to riparian vegetation may be minimised through the implementation of a vegetation management and staged clearing condition.

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

Methodology FMG (2019)
Spectrum Ecology (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 at variance to this Principle

The application area lies within the Bonney, Boolaloo, Boolgeeda, Brockman, Coolibah, Granitic, Jurrawarrina, Macroy, Mallina, McKay, Newman, River, Robe, Rocklea, Uaroo, Urandy, White Springs and Wona 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 Bonney, Boolaloo, Boolgeeda, Grantic, Macroy, McKay, Newman, Robe, Rocklea, Urandy and White Springs land systems are all generally not prone to erosion or land degradation (Van Vreeswyk et al., 2004).

Within the Brockman land system, tussock grasslands are susceptible to overgrazing and degradation (Van Vreeswyk et al., 2004). Soil erosion can also occur in areas if vegetation cover is severely depleted (Van Vreeswyk et al., 2004).

Floodplains within the Coolibah land system generally have a low susceptibility to erosion however, the alluvial plains are highly susceptible to erosion (Van Vreeswyk et al., 2004).

Within the Jurrawarrina land system, some hardpan washplains, drainage tracts and groves are moderately susceptible to erosion (Van Vreeswyk et al., 2004).

The alluvial plains of the Mallina land system are highly susceptible to erosion if vegetation cover is seriously depleted (Van Vreeswyk et al., 2004).

The River land system has a high to very high risk of erosion if vegetation cover is removed (Van Vreeswyk et al., 2004).

The Uaroo land system is generally not susceptible to erosion however, there is occasionally some erosion evident on drainage tracts (Van Vreeswyk et al., 2004).

The Wona land system is generally not susceptible to erosion except if the stony mantle is removed (Van Vreeswyk et al., 2004).

The proposed clearing is for a narrow corridor for a powerline which will only clear small amounts of vegetation

of each land system as it traverses the length of the corridor. Whilst there are some land systems which have a higher risk of erosion, the small amounts of clearing at each location are not likely to cause appreciable land degradation. The powerline route also follows the existing rail line and is situated in previously disturbed areas where possible. Potential impacts of erosion may be minimised by the implementation of a staged clearing condition.

Based on the above, the proposed clearing may 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 is an approximate 9 kilometre stretch of the permit boundary that passes through the former Mt Florence pastoral lease which is managed by DBCA (GIS Database). The permit boundary intersects the northern boundary of this area and runs adjacent to the existing Nanutarra Road (GIS Database). No conservation significant vegetation communities, flora or fauna have been recorded within the section of the permit boundary in this conservation area (FMG, 2019). The proposed clearing of a narrow, linear corridor for a powerline is not likely to have a significant impact on the environmental values of this area.

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

Methodology FMG (2019)

GIS Database:
- DPaW Tenure
- Imagery
- Roads

(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). The proposed clearing of 90.3 hectares over 170 kilometres is unlikely to cause deterioration in the quality of underground water.

There are no permanent watercourses or wetlands within the area proposed to clear, however the permit boundary intersects numerous ephemeral watercourses (GIS Database). The permit area intersects two significant rivers, the Fortescue River and Turner River (GIS Database). Whilst the proposed clearing will impact on numerous watercourses, the clearing for the purpose of a powerline is unlikely to result in significant changes to surface water flows.

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**

There are no permanent water courses or waterbodies within the application area (GIS Database). The permit area intersects two significant rivers, the Fortescue River and Turner River (GIS Database). Seasonal drainage lines and watercourses are common in the region and temporary localised flooding may occur briefly following heavy rainfall events. The proposed clearing of 90.3 hectares within a permit boundary of approximately 1,752.7 hectares spanning over 170 kilometres is not likely to cause an increase in the incidence or intensity of flooding in the local area.

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

Methodology GIS Database:
- Hydrography, linear

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

Comments

The clearing permit application was advertised on 23 March 2020 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. There was one submission received stating no objections to the proposed clearing.

There are five native title claims over the area under application (DPLH, 2020). These claims have been determined by the Federal Court on behalf of the claimant groups. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are 22 registered Aboriginal Sites of Significance within the application area (DPLH, 2020). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

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

Methodology DPLH (2020)

4. References

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- Ecoscape (2018) Pilbara Transmission Project Flora and Vegetation Desktop Assessment. Report prepared for Fortescue Metals Group, by Ecoscape, 20 November 2018.
- FMG (2019) Native Vegetation Clearing Permit Application Supporting Documentation – Pilbara Transmission Project – Stage 2. Fortescue Metals Group Ltd, November 2019.
- Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
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- Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A. and Hennig, P. (2004) An inventory and condition survey of the Pilbara Region, Western Australia. Technical Bulletin No. 92. Department of Agriculture, South Perth, Western Australia.
- Western Australian Herbarium (2020) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/> (Accessed 21 April 2020).

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DBCA and DWER)
DoEE	Department of the Environment and Energy, Australian Government
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora
DoE	Department of the Environment, Australian Government (now DoEE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DSEWPac	Department of Sustainability, Environment, Water, Population and Communities (now DoEE)
DWER	Department of Water and Environmental Regulation, Western Australia
EPA	Environmental Protection Authority, Western Australia
EP Act	<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.