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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 9282/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Fortescue Metals Group Limited**

1.3. Property details

Property: Miscellaneous Licence 45/457
Miscellaneous Licence 45/470
Local Government Area: Shire of East Pilbara and Town of Port Hedland
Colloquial name: Pilbara Transmission Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
38.5		Mechanical removal	Powerline and associated infrastructure

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 8 July 2021

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:

82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*;
93: Hummock grasslands, shrub steppe; kanji over soft spinifex;
647: Hummock grasslands, dwarf shrub steppe; *Acacia translucens* over soft spinifex.

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 31 vegetation communities have been mapped within the permit area (FMG, 2021):

AbiS3: *Acacia bivenosa* and *Acacia orthocarpa* Open Shrubland over *Acacia stellaticeps* Low Shrubland over Tussock Grassland of *Triodia lanigera*.

AbTOS/AoAbAmTS: Tall Open Shrubland dominated by *Acaia bivenosa* over a Grassland of *Triodia basedowii* with scattered *Ptilotus gomphrenoides var. gomphrenoides* and *Eucalyptus leucophloia subsp. leucophloia* on rocky soils.

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

Ac28: *Acacia bivenosa* open heath over *Triodia lanigera* hummock grassland.

Ac30: *Corymbia hamersleyana, C. candida* low open woodland over *Acacia colei, A. tumida* scattered tall shrubs over *Triodia epactia* hummock grassland and very open herbland.

Ac4: *Eucalyptus victrix* scattered low trees to low open woodland over *Melaleuca glomerata* high shrubland to open scrub over *Triodia epactia*, tussock grasses and patches of sedges.

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.

Ah5a: *Acacia inaequilatera* scattered tall shrubs over *Triodia aff. lanigera* mid-dense hummock grassland.

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

Aps1/Aps2: *Acacia orthocarpa* high open shrubland to open scrub over *Triodia epactia* mid-dense hummock grassland /*Acacia orthocarpa* high shrubland to open scrub over *Triodia lanigera* mid-dense hummock grassland.

Aps6: *Acacia tumida* open shrubland to shrubland over *Triodia schinzii* hummock grassland.

Aps7: *Acacia colei* high shrubland over *Triodia epactia, T. lanigera* mid-dense hummock grassland.

Apt10: *Acacia stellaticeps* scattered shrubs to low shrubland over *Triodia epactia* 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.

Apt12/Aps1: *Acacia orthocarpa* high shrubland to open scrub over *Triodia lanigera* mid-dense hummock grassland / *Acacia orthocarpa* high open shrubland to open scrub over *Triodia epactia* mid-dense hummock grassland.

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

Apt15/Aps7: *Acacia inaequilatera*, *A. ancistrocarpa* scattered tall shrubs over *Triodia epactia, T. lanigera* hummock grassland.

Apt16: *Acacia colei, A. tumida* high open shrubland over *Triodia epactia* hummock grassland.

Apt2/Apt7: *Triodia secunda* mid-dense hummock grassland / *Acacia* spp., *Pluchea ferdinandi-muelleri* scattered shrubs over *Triodia longiceps* mid-dense hummock grassland.

Apt3: *Triodia epactia* hummock grassland to mid-dense hummock grassland.

Apt7: *Acacia spp., Pluchea ferdinandi-muelleri* scattered shrubs over *Triodia longiceps* 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.

Cc20: *Corymbia spp*. scattered low trees over *Acacia coriacea subsp. pendens, A. ancistrocarpa, A. tenuissima* tall open shrubland over *Triodia epactia* mid-dense hummock grassland and open tussock grasses.

Ch17: *Acacia aneura, A. adsurgens, G. wickhamii, Senna glutinosa subsp. glutinosa, S. glutinosa subsp. x luerssenii* scattered shrubs over *Triodia aff. basedowii* mid-dense hummock grassland.

Ch17/Ch20: *Acacia aneura, A. adsurgens, G. wickhamii, Senna glutinosa subsp. glutinosa, S. glutinosa subsp. x luerssenii* scattered shrubs over *Triodia aff. basedowii* mid-dense hummock grassland.

Ch24: *Acacia bivenosa* open shrubland over *Triodia wiseana* mid-dense 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.

EcOW: *Acacia bivenosa* open shrubland over *Triodia wiseana* mid-dense hummock 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.

TIAs: *Triodia lanigera, Acacia stellaticeps, Indigofera monophylla*, /*Triodia*/^hummock grass.

There were also areas mapped as 'highly degraded', 'not assessed' and 'unmapped' (FMG, 2021).

* denotes weed species

Clearing Description

Pilbara Transmission Project.
Fortescue Metals Group Ltd proposes to clear up to 38.5 hectares of native vegetation within a boundary of approximately 771.36 hectares, for the purpose of constructing a 220 kV power transmission line. The permit covers over 55 kilometres and runs from approximately 57 kilometres north of Tom Price to 7 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 Stage 3 of the construction of a 220 kV power transmission line. Clearing for Stage 2 of the project was approved under clearing permit 8834/1. FMG has indicated that 15 hectares of the clearing 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, 2021). The clearing permit area consists of clearing in two separate areas approximately 130 kilometres apart (see Figure 1).

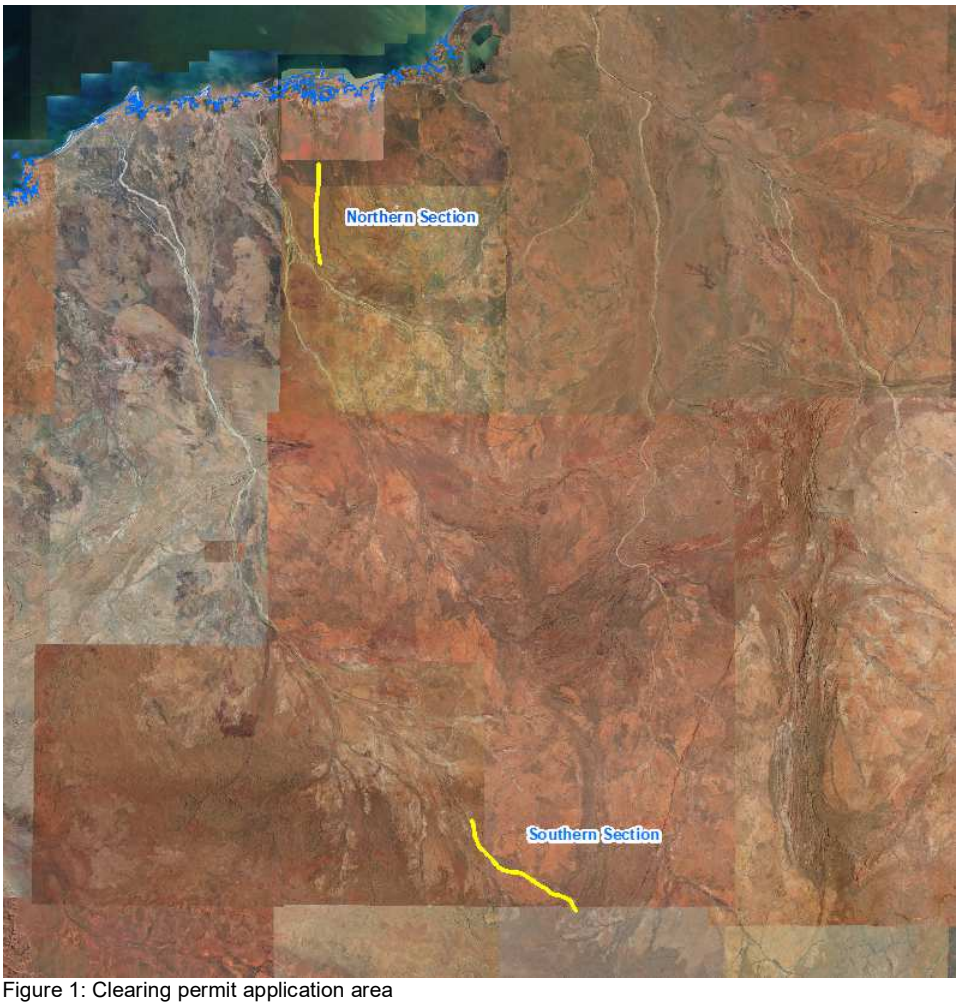

Figure 1: Clearing permit application area

3. Assessment of application against Clearing Principles

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

Comments

Proposal is not likely to be at variance to this Principle

The clearing permit area crosses two subregions (Chichester and Roebourne) of the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) Bioregion (GIS Database).

Flora and vegetation surveys that have covered the permit area have identified 31 vegetation communities within the permit area (FMG, 2021). Given that the permit area is a linear area than spans over 55 kilometres, it is expected that it would contain a higher number of vegetation communities. None of the vegetation communities were considered to be a Threatened or Priority Ecological Community (Ecoscape, 2018; FMG, 2021; GIS Database).

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, 2021: GIS Database). There were four species of Priority flora recorded within the permit area; *Abutilon* sp. Pritzelianum (Priority 3), *Heliotropium muticum* (Priority 3), *Stylidium weeliwolli* (Priority 3) and *Goodenia nuda* (Priority 4) (FMG, 2021).

Abutilon sp. Pritzelianum was recorded from 144 locations within the permit area (FMG, 2021). These records were all concentrated in an approximately 10 kilometre stretch of the northern section of the permit area (FMG, 2021). This area is almost exclusively comprised of the Aps7 vegetation community (Ecoscape, 2018). There are 47 records of this species at the Western Australian Herbarium (1998-) from three different bioregions. *Goodenia nuda* was recorded from eight locations within the southern section of the permit area within the Ch24 vegetation community (Ecoscape, 2018; FMG, 2021). *Goodenia nuda* is known from a number of populations within the Pilbara IBRA Region (Western Australian Herbarium, 1998-). *Heliotropium muticum* and *Stylidium weeliwolli* were both recorded from one location within the permit area (FMG, 2021). FMG (2021) 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.

There were three introduced flora species (weeds) recorded within the permit area; Kapok Bush (*Aerva javanica*), Purpletop Chloris (*Chloris barbata*) and Spiked Malvastrum (*Malvastrum americanum*) (FMG, 2021). Weeds have the potential to out-compete native flora and reduce the biodiversity of an area. Potential impacts to biodiversity as a result of the introduction of weeds may be minimised by the implementation of a weed management condition.

The permit area passes over seven fauna habitats which contain a diversity of microhabitats and have the potential to support a diverse range of fauna species (Spectrum Ecology, 2018; FMG, 2021). The proposed clearing covers an area over 55 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

Ecoscape (2018)
FMG (2021)
Spectrum Ecology (2018)
Western Australian Herbarium (1998-)

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.

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, 2021):

- Clay pan
- Granite outcrops
- Loamy/stony plain with mixed shrubland
- Minor creekline
- 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, 2021). There was over a third of the permit area mapped as previously cleared (FMG, 2021). The most common habitat is the 'sandy/loamy plain with mixed spinifex grassland' followed by cleared areas and the 'stony plains and low rises with hummock grassland' habitats (FMG, 2021). Together these three habitats cover approximately 61% of the permit area and account for over 94% of the habitats when cleared areas are excluded (FMG, 2021).

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 Western Pebble-mound Mouse (*Pseudomys chapmani* – Priority 4) and Brush-tailed Mulgara (*Dasycercus blythi* – Priority 4) have both been recorded from this habitat (FMG, 2021; Spectrum Ecology, 2018).

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). This habitat is dominant in the southern section of the permit area. 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 clay pan habitat was present in one location in the northern section of the permit area (Spectrum Ecology, 2018). The permit area is located on the fringes of the clay pan where vegetation tends to be more

concentrated (Spectrum Ecology, 2018). Fauna would likely use the larger trees and shrubs on the border of the clay pan for shelter and foraging and the habitat would also be used for wetland species such as water birds, frogs and turtles when surface water is present (Spectrum Ecology, 2018). There is 2.4 hectares of this habitat mapped within the permit area (FMG, 2021). The proposed clearing activities will only require the clearing of 0.2 hectares of this habitat (FMG, 2021).

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 0.9 hectares of this habitat mapped within the permit area (FMG, 2021).

There are several fauna species of conservation significance which have been recorded or have the potential to utilise habitat within the permit area (FMG, 2021; Spectrum Ecology, 2018). The Bilby, Brush-tailed Mulgara, Northern Quoll (*Dasyurus hallucatus* – Endangered) and Western Pebble-mound Mouse (*Pseudomys chapmani* – Priority 4) have all been recorded within the permit boundary (Spectrum Ecology, 2018).

The Bilby was recorded from one location within the permit area (Spectrum Ecology, 2018). The Bilby was recorded within a cleared area in the northern section of the permit area (Spectrum Ecology, 2018). It is likely that Bilbies will utilise the 'sandy/loamy plain with mixed spinifex grassland' habitat which covers most of the northern section of the permit area. There were also 15 records of the Bilby within this habitat from the northern section of clearing permit 8834/1 which is directly south of the permit area (Spectrum Ecology, 2018). 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).

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 eight records of the Brush-tailed Mulgara within the permit area, all of which were recorded in the northern section of the permit area (Spectrum Ecology, 2018).

There was one record of the Northern Quoll within the permit area from the 'stony plains and low rises with hummock grassland' habitat (Spectrum Ecology, 2018). There were also numerous records of Northern Quolls over the greater Pilbara Transmission Project area (Spectrum Ecology, 2018). The large majority of these records were from areas associated with creekline and river habitat, suggesting that these areas are significant for dispersal and foraging for the Northern Quoll. The record within the permit area was also adjacent to 'minor creekline' habitat (Spectrum Ecology, 2018). The granite outcrop habitat also has the potential for denning/breeding as well as foraging for this species (Spectrum Ecology, 2018). Given the importance of riparian vegetation for this species, potential impacts to Northern Quoll may be minimised by the implementation of a watercourse management condition.

The permit area is situated adjacent to an existing rail line and approximately 271 hectares of the permit area has been mapped as previously cleared (FMG, 2021). 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, 2021). 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 which requires the relocation of any individuals found within the path of the clearing.

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

Methodology FMG (2021)
Spectrum Ecology (2018)

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened 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, 2021). Based on the habitat present, 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 (2021)

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 82, 93, and 647 (GIS Database). These vegetation associations have not been extensively cleared as over 97% 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 a significant watercourse in the Yule River (GIS Database). It also intersects numerous minor ephemeral watercourses across the length of the permit area (GIS Database). None of the vegetation communities were identified as being potential groundwater dependent vegetation (FMG, 2021).

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 permit 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 (2021)
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 be at variance to this Principle

The application area lies within the Granitic, Macroy, Mallina, Rocklea, Talga and Uaroo 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 Granitic, Macroy, Rocklea and Talga land systems are all generally not 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 Uaroo land sytem is generally not susceptible to erosion however, there is occasionally some erosion evident on drainage tracts (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 are no conservation areas in the vicinity of the application area. The nearest DBCA managed land is the Mungaroona Nature Reserve which is located approximately 36 kilometres west of the application area (GIS Database). The proposed clearing is unlikely to impact on the environmental values of any conservation area.

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

Methodology

GIS Database:
- DPaW Tenure

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

Comments

Proposal is not likely to be at variance to this Principle

There are no Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database). The proposed clearing of 38.5 hectares over 55 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 the Yule 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 a significant watercourse in the Yule 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 38.5 hectares within a permit boundary of approximately 771.36 hectares spanning over 55 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 17 May 2021 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 two native title claims over the area under application (DPLH, 2021). 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 eight registered Aboriginal Sites of Significance within the application area (DPLH, 2021). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

The clearing permit is related to the broader Pilbara Transmission Project which was referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986* (EP Act) on 26 November 2018. On 28 February 2019 the EPA determined that the proposal did not require assessment under Part IV of the EP Act, and could be dealt with under Part V Division 2 of the EP Act (clearing of native vegetation provisions) (EPA, 2019).

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 (2021)
EPA (2019)

4. References

DPLH (2021) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS (Accessed 17 May 2021).

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FMG (2021) Native Vegetation Clearing Permit Application Supporting Documentation – Pilbara Transmission Project – Stage 3. Fortescue Metals Group Ltd, 5 May 2021.

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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 (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. https://florabase.dpaw.wa.gov.au/ (Accessed 19 May 2021).

5. Glossary

Acronyms:

BC Act	*Biodiversity Conservation Act 2016,* Western Australia
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)
DAWE	Department of Agriculture, Water and the Environment, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
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)
DoEE	Department of the Environment and Energy (now DAWE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	*Environmental Protection Act 1986*, Western Australia
EPA	Environmental Protection Authority, Western Australia
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	*Rights in Water and Irrigation Act 1914*, Western Australia
TEC	Threatened Ecological Community

Definitions:

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

T **Threatened species:**

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

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

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

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

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

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

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

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

VU **Vulnerable species**

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

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

Extinct Species:

EX **Extinct species**

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

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

EW **Extinct in the wild species**

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

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

Specially protected species:

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

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

MI **Migratory species**

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

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

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

CD **Species of special conservation interest (conservation dependent fauna)**

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

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

OS **Other specially protected species**

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

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

P **Priority species:**

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are

added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

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

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

P1 **Priority One - Poorly-known species**
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 **Priority Two - Poorly-known species**
Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 **Priority Three - Poorly-known species**
Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

P4 **Priority Four - Rare, Near Threatened and other species in need of monitoring**
(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.