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.: 8004/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Alinta Energy Transmission (Chichester) Pty Ltd**

1.3. Property details

Property:
Mining Lease 46/356
Mining Lease 46/404
Mining Lease 46/405
Mining Lease 46/406
Mining Lease 46/409
Mining Lease 46/413
Mining Lease 46/414
Mining Lease 46/415
Mining Lease 46/416
Mining Lease 46/417
Mining Lease 46/418
Mining Lease 46/419
Mining Lease 46/420
Mining Lease 46/423
Mining Lease 46/424
Miscellaneous Licence 46/130

Local Government Area: Shire of Ashburton, Shire of East Pilbara
Colloquial name: Christmas Creek to Cloudbreak Transmission Line

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
141		Mechanical Removal	Overhead transmission line

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 9 August 2018

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The vegetation of the application area is broadly mapped as the following Beard vegetation associations:
29: sparse low woodland, mulga; and
562: Mosaic: Low woodland; mulga in valleys / Hummock grasslands, open low tree-steppe; snappy gum over *Triodia wiseana* (GIS Database).

Flora and vegetation surveys were conducted by ENV Australia Pty Ltd (ENV Australia) over the Cloudbreak study area in July and August 2010, and the Christmas Creek study area during March and April 2011, April and May 2012, June 2012 and May 2013, which covered the application area.

The following vegetation associations were recorded within the application area (ENV Australia, 2011; 2013):

Creekline and Drainage Lines
1 / VT1 - Open Woodland of *Eucalyptus victrix, Eucalyptus camaldulensis* with pockets of *Acacia coriacea* subsp. *pendens* over *Grevillea wickhamii* subsp. *aprica, Petalostylis labicheoides, Acacia tumida* over *Triodia longiceps, Chrysopogon fallax, Themeda triandra* and *Aristida* species.

2 / VT2 - Low Woodland to Low Open Forest of *Acacia aneura* var. *aneura, Acacia citrinoviridis, Acacia pruinocarpa* over *Acacia tetragonophylla* and *Psydrax latifolia* over *Chrysopogon fallax, Stemodia viscosa, Blumea tenella, Themeda triandra* and species of *Triodia* and *Aristida.*

8 / VT8 - Closed Scrub to Tall Shrubland of *Acacia pruinocarpa, Acacia tumida, Acacia ancistrocarpa, Acacia maitlandii, Acacia kempeana, Acacia tetragonophylla* with occasional *Eucalyptus gamophylla* and *Corymbia deserticola* over *Triodia epactia, Themeda triandra* and *Aristida* species.

9 / VT9 - Closed Scrub to Shrubland of *Acacia ancistrocarpa, Acacia maitlandii, Acacia kempeana, Acacia monticola* with occasional *Eucalyptus gamophylla* and *Corymbia deserticola* over *Senna* species, *Triodia basedowii* and *Aristida* species.

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

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

10 / VT10.1- Low Open Woodland of *Acacia xiphophylla, Acacia victoriae, Acacia aneura* var. *aneura* over *Acacia tetragonophylla, Ptilotus obovatus, Senna* species and mixed species of *Maireana* and *Sclerolaena.*

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

Ranges, Hills and Hillslopes
16 / VT16 - Hummock Grassland of *Triodia basedowii* with pockets of *Triodia epactia* and *Triodia lanigera* with emergent patches of *Eucalyptus leucophloia, Corymbia deserticola* over *Acacia ancistrocarpa, Acacia hilliana, Acacia acradenia, Acacia pyrifolia, Hakea lorea* subsp. *lorea* over *Goodenia stobbsiana* and mixed *Senna* species.

17 / VT17 - Hummock Grassland of *Triodia basedowii* with pockets of *Triodia epactia* and *Triodia lanigera* with emergent patches of *Eucalyptus leucophloia, Corymbia deserticola* over *Acacia ancistrocarpa, Acacia pyrifolia, Hakea lorea* subsp. *lorea* over *Goodenia stobbsiana* and mixed *Senna* and *Ptilotus* species.

Clearing Description

Christmas Creek to Cloudbreak Transmission Line.
Alinta Energy Transmission (Chichester) Pty Ltd proposes to clear up to 141 hectares of native vegetation within a boundary of approximately 745 hectares, for the purpose of an overhead transmission line between FMG's Christmas Creek and Cloudbreak substations. The project is located approximately 120 kilometres north-west of Newman, within the Shire of Ashburton and Shire of East Pilbara.

Vegetation Condition

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

to

Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).

Comment

The vegetation condition was derived from vegetation surveys conducted by ENV Australia (2011; 2013).

The proposed clearing is for the construction of a 220 Kilovolt overhead transmission line, approximately 35 kilometres long between FMG's Christmas Creek and Cloudbreak substations in the Pilbara region of Western Australia. The proposed transmission line and associated infrastructure will supply FMG's Cloudbreak Iron Ore Mine with power to support ongoing mining activities.

The Christmas Creek to Cloudbreak transmission line includes the following main activities:

- Installing approximately 175 towers at approximately 200 metre intervals along the proposed alignment;
- A five metre wide access track running the length of the transmission line which will be used by construction and maintenance vehicles for movement between towers;
- Laying conductors on the ground between towers prior to stringing; and
- Additional clearing for fire hazard reduction to protect the transmission line and associated infrastructure from potential damage from bushfires.

3. Assessment of application against Clearing Principles

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

Comments

Proposal may be at variance to this Principle

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

The application area does not intersect any Threatened Ecological Communities (TECs), Priority Ecological Communities (PECs) or known locations of Threatened flora (GIS Database). One PEC, the Fortescue Marsh, occurs approximately two kilometres to the south west of the application area (GIS Database).

The vegetation within the application area is considered to be in 'Excellent' to 'Completely Degraded' condition

(ENV Australia, 2011; 2013). The majority of the vegetation within the application area is considered to be in a 'Very Good' to 'Good' condition (ENV Australia, 2011; 2013).

The proposed clearing area lies within areas of approximately 46,838 hectares and 70,144 hectares which were surveyed for FMG's Cloudbreak and Christmas Creek Iron Ore Mines, respectively (ENV Australia, 2011; 2013).

A total of 230 flora taxa, representing 159 genera belonging to 47 families were recorded previously within the Cloudbreak study area (ENV Australia, 2011). A total of 485 taxa, representing 17 genera belonging to 53 families were recorded during the flora and vegetation surveys from 2011 and 2013 within the Christmas Creek study area, reflecting good seasonal conditions and intrinsically high species diversity, particularly of mulga and riparian vegetation (ENV Australia, 2013).

Flora and vegetation surveys conducted by ENV Australia (2011; 2013) over the application area and surrounding area recorded one Priority Flora species within the proposed clearing area, *Goodenia nuda* (Priority 4). It was recorded at 66 locations in the Cloudbreak study area previously (ENV Australia, 2011) and at 8 locations in the Christmas Creek study area during ENV Australia's surveys from 2011 to 2013. Of these, less than 10 individuals were recorded within the application area and in proximity to the permit boundary. The proposed clearing is unlikely to impact the conservation significance of this species as it was recorded in numerous locations outside the application area. Additionally, all known locations of Priority Flora species will be recorded in Alinta Energy's Ground Disturbance Permit system and known locations shall be avoided where reasonably practicable (Preston Consulting, 2018).

The proposed clearing area lies partly within an area of approximately 58,150 hectares which was surveyed for fauna for the Cloudbreak Iron Ore Mine (Ecologia, 2011). This survey covers the western portion of the application area. The survey recorded 14 native and three introduced mammal species, 63 bird species, 47 reptile species and one amphibian species (Ecologia, 2011).

The proposed clearing area lies partly within an area of approximately 66,740 hectares which was surveyed for fauna for the Christmas Creek Iron Ore Mine (ENV Australia, 2012). This survey covers the eastern portion of the application area. A total of 120 vertebrate fauna species, consisting of four amphibian species, 45 reptile species, 60 birds and 11 mammal species, were recorded during the survey (ENV Australia, 2012). All of the species recorded are typical of the Pilbara and the majority of them have been recorded previously (ENV Australia, 2012).

Three fauna habitats were identified by Ecologia (2011) from the Cloudbreak study area which intersect the application area. The fauna habitats are as follows:

- Creekline with fringing Acacia and Eucalypt;
- Spinifex-covered hills; and
- Snakewood and Mulga woodland.

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

- Drainage Line and Alluvial Plain; and
- Stony Plain.

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

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

Methodology

CALM (2002)
Ecologia (2011)
ENV Australia (2011)
ENV Australia (2012)
ENV Australia (2013)
Preston Consulting (2018)

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

(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

A Level 2 vertebrate fauna survey of the Cloudbreak study area was conducted by Ecologia in 2010, which covered the western portion of the application area. The following three fauna habitats were identified within the application area:

- Creeklines with fringing Acacia and Eucalypt;
- Spinifex-covered hills; and
- Snakewood and Mulga woodland.

A Level 2 vertebrate fauna survey of the Christmas Creek study area was conducted by ENV Australia in 2011, which covered the eastern portion of the application area. The following two fauna habitats were identified within the application area:

- Drainage Line and Alluvial Plain; and
- Stony Plain.

The 'Creeklines with Fringing Acacia and Eucalypt' habitat and the 'Drainage Line and Alluvial Plain' habitat overlapped one another and had similar descriptions, therefore have been interpreted as one habitat. This habitat type occurs in a north to south direction within the application area due to the water flowing off the hills towards the Fortescue Marsh. The vegetation associated with this habitat is Woodland of *Eucalyptus victrix, Eucalyptus camaldulensis* and *Acacia aneura* over *Acacia pruinocarpa* and *Acacia tetragonophylla* over *Triodia* and *Themeda* species (ENV Australia, 2012). The habitat was identified as "moderate habitat value", as some wildlife including birds, bats, large mammals and wide-ranging reptiles are likely to use the drainage line as a movement corridor. Accumulations of leaf litter below the eucalypts and along the watercourses provide habitat for reptiles adapted for burrowing such as *Lerista macropisthopus* and *Lerista muelleri*, while the eucalypts provide habitat for the Long-nosed Dragon (Ecologia, 2011).

The creekline habitat type comprises a higher density and diversity of bird species than the other habitats recorded (Ecologia, 2011). Many bird species showed a preference for this habitat type, in particular foraging and nesting among the eucalypts and other tall trees. These species include Red-back Kingfisher, Painted Finch, Weebill and Rainbow Bee-eater. Small insectivorous bat species may also occur in this habitat type due to the abundance of insects around water bodies (Ecologia, 2011).

The 'Spinifex Covered Hills' habitat covers a small area in the north-western portion of the application area. This habitat consists of scattered eucalypts and acacias over spinifex grassland. Various distinct species occur in this habitat type, the spinifex covering the rocky hills provides shelter from the heat and protection from predators for many species of skink and dragon lizard which forage for insects between the spinifex clumps (Ecologia, 2011). The pebble-covered foot slopes also provide ideal habitat for the Western Pebble-mound Mouse and numerous mounds were observed in this habitat type during Ecologia's survey (2011).

The 'Snakewood and Mulga woodland' consists of open to moderately dense *Acacia aneura* or other mixed *Acacia* spp. over patches of Snakewood along the edge of the Fortescue Marsh. This habitat type provides habitat for geckos and other small reptiles which inhabit bark and dead trees (Ecologia, 2011). Reptile species recorded in this habitat type include the Western Brown Snake, Burton's Legless Lizard and Stripe-tailed Monitor. Several bird species were predominantly observed within Mulga woodland, such as Chestnut-rumped Thornbill, Magpie-lark, Crested Pigeon, Diamond Dove, Hooded Robin, Red-capped Robin and Slaty-backed Thornbill. These species typically forage and nest amongst Mulga trees (Ecologia, 2011).

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

The fauna habitat types identified within the application area extend well beyond the boundaries of the application area, and the proposed clearing area contain only a small percentage of the broader habitats. The 'Drainage Line' habitat was identified to be restricted, however, clearing within this habitat will be minimal and generally only disturbed for the development of an access track of minimum widths (Preston Consulting, 2018). Fauna refuges such as logs will be pushed to the side of the clearing areas and retained where practicable (Preston Consulting, 2018). The proposed clearing of 141 hectares within a total boundary of approximately 745 hectares is unlikely to have a significant impact on the local fauna habitats.

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

Methodology

Ecologia (2011)
ENV Australia (2012)
Preston Consulting (2018)

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

Comments

Proposal is not likely to be at variance to this Principle

There are no known records of Threatened flora within the application area (GIS Database). Flora surveys of the application area did not record any species of Threatened flora (ENV Australia, 2011; 2013).

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

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

Methodology

ENV Australia (2011)
ENV Australia (2013)

GIS Database:
- Threatened and Priority Flora

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

Comments

Proposal is not likely to be at variance to this Principle

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

Flora and vegetation surveys of the application area did not identify any TECs (ENV Australia, 2011; 2013).

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

Methodology

ENV Australia (2011)
ENV Australia (2013)

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% of the pre-European vegetation still exists in the IBRA Pilbara Bioregion (Government of Western Australia, 2018). The application area is broadly mapped as Beard vegetation associations 29: sparse low woodland, mulga; and 562: Mosaic: Low woodland; mulga in valleys / Hummock grasslands, open low tree-steppe; snappy gum over *Triodia wiseana* (GIS Database). Approximately 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, 2018).

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

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DBCA managed lands
IBRA Bioregion – Pilbara	17,808,657	17,733,584	99	Least Concern	10.12
Beard vegetation associations – WA					
29	7,903,991	7,900,200	99	Least Concern	6.28
562	103,606	103,606	~100	Least Concern	3.34
Beard vegetation associations – Pilbara Bioregion					
29	1,133,220	1,132,939	99	Least Concern	9.38
562	103,606	103,606	~100	Least Concern	3.34

* Government of Western Australia (2018)
** Department of Natural Resources and Environment (2002)

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

Methodology Department of Natural Resources and Environment (2002)
Government of Western Australia (2018)

GIS Database:
- IBRA Australia
- Pre-European Vegetation

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

Comments

Proposal is at variance to this Principle

There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database; Preston Consulting, 2018). Several small un-named ephemeral watercourses are located within the application area, which drain into the Fortescue Marsh (GIS Database).

The proposed clearing includes activities that will have a potential impact on vegetation growing in, or in association with, an environment associated with a watercourse. The two main activities are:

- Access tracks – some riparian vegetation will be cleared to install access tracks approximately five metres wide along the length of the proposed transmission line, which will traverse narrow areas of vegetation associated with unnamed ephemeral watercourses; and
- Fire hazard reduction – some riparian vegetation will need to be trimmed for fire hazard reduction and to protect the transmission line and associated infrastructure from potential damage from bushfires.

The proponent has advised that clearing activities will be restricted to minimum widths in riparian zones and existing roads will be used for major access across watercourses, to minimise impact on riparian vegetation (Preston Consulting, 2018).

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

Methodology Preston Consulting (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 is not likely to be at variance to this Principle

The application area lies within the Jamandie, Turee, Newman and Cowra land systems (GIS Database). These land systems have been mapped and described in technical bulletins produced by the former Department of Agriculture (now the Department of Primary Industries and Regional Development).

The Jamindie land system is described as stony hardpan plains and rises supporting groved Mulga shrublands, occasionally with spinifex understorey. This land system is not generally susceptible to erosion (van Vreeswyk et al., 2004). Drainage tracts are moderately susceptible to erosion, however, due to the minimal proposed disturbance within these areas it is unlikely the proposed clearing will increase the amount of erosion.

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

The Newman land system is described as rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands. This land system is not generally susceptible to erosion (van Vreeswyk et al., 2004). The drainage areas within the application area may have erosional surfaces, however, due to the minimal proposed disturbance within these areas it is unlikely the proposed clearing will increase the amount of erosion.

The Cowra land system is described as plains fringing the Marsh land system and supporting Snakewood and Mulga shrublands with some halophytic undershrubs. This land system is not generally susceptible to erosion (van Vreeswyk et al., 2004).

Of the 141 hectares of proposed native vegetation clearing, up to 65 hectares will not be completely cleared but will be maintained below one metre to reduce bushfire risk, which reduces the likelihood of land degradation as not all of the ground cover will be cleared (Preston Consulting, 2018).

The proposed clearing of up to 141 hectares of native vegetation within a boundary of approximately 745 hectares, for the purpose of an overhead transmission line and associated infrastructure is unlikely to cause appreciable land degradation.

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

Methodology

Preston Consulting (2018)
Van Vreeswyk et al. (2004)

GIS Database:
- Landsystem Rangelands

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

Comments

Proposal is not likely to be at variance to this Principle

There are no conservation areas in the vicinity of the application area. The nearest DBCA (formerly DPaW) managed land is the Karijini National Park which is located approximately 100 kilometres west of the application area (GIS Database).

The application area lies within the buffer zone of the Fortescue Marsh Priority Ecological Community (ENV Australia, 2013; GIS Database), which is an Environmentally Sensitive Area. The Fortescue Marsh is located approximately 2 kilometres to the south west of the nearest section of the application area, therefore the proposed clearing is unlikely to cause direct impacts to the PEC.

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

ENV Australia (2013)

GIS Database:
- DPaW Tenure
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers

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

Comments

Proposal is not likely to be at variance to this Principle

There are no Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database). There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. The proposed clearing is unlikely to result in significant changes to surface water flows.

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

The proposed clearing is unlikely to cause deterioration in the quality of surface or underground water.

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

Methodology

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

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

Comments

Proposal is not likely to be at variance to this Principle

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

There are no permanent water courses or waterbodies within the application area (GIS Database). Seasonal drainage lines are common in the region and temporary localised flooding may occur briefly following heavy rainfall events. However, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.

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

Methodology

BOM (2018)
Preston Consulting (2018)

GIS Database:
- Hydrography, linear

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

Comments

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

There is one native title claim over the area under application (DPLH, 2018). However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2018). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

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

Methodology

DPLH (2018)

4. References

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Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

DPLH (2018) Aboriginal Heritage Enquiry System. Department of Planning, Lands and Heritage. http://maps.daa.wa.gov.au/AHIS/ (Accessed 2 August 2018).

Ecologia (2011) Cloudbreak Level 2 Terrestrial Vertebrate Fauna Assessment. Report prepared for FMG Pty Ltd, by Ecologia Environment, May 2011.

ENV Australia (2011) Cloudbreak Flora and Vegetation Assessment. Report prepared for FMG Pty Ltd, by ENV Australia Pty Ltd, February 2011.

ENV Australia (2012) Christmas Creek Terrestrial Vertebrate Fauna and Fauna Habitat Assessment. Report prepared for FMG Pty Ltd, by ENV Australia Pty Ltd, 2012.

ENV Australia (2013) Christmas Creek Life of Mine Flora and Vegetation Assessment. Report prepared for FMG Pty Ltd, by ENV Australia Pty Ltd, December 2013.

Government of Western Australia (2018) 2017 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017. WA Department of Biodiversity, Conservation and Attractions. https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics

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

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

Preston Consulting (2018) Native Vegetation Clearing Permit Application, Christmas Creek to Cloudbreak Transmission Line – Supporting Information. Report prepared for Alinta Energy (Chichester) Pty Ltd, by Preston Consulting Pty Ltd, February 2018.

5. Glossary

Acronyms:

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

Definitions:

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

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

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

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

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

CR **Critically endangered species**
Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

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

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

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

IA **Migratory birds protected under an international agreement**
Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.

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

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

P **Priority species**
Species which are poorly known; or
Species that are adequately known, are rare but not threatened, and require regular monitoring. Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1 **Priority One - Poorly-known species:**
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or

otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

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

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

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