



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6792/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Pilbara Manganese Pty Ltd

1.3. Property details

Property: Mining Leases 45/107, 45/429, 45/430, 45/431, 45/432, 45/433, 45/517, 45/600, 45/601, 45/637, 45/638, 45/639, 45/640, 45/1218, 46/92, 46/93, 46/108, 46/137, 46/161, 46/162
General Purpose Leases 45/37, 45/38, 45/39, 45/40, 45/279, 45/280, 45/281, 45/282, 45/283, 45/284, 46/04

Local Government Area: Shire of East Pilbara
Colloquial name: Woodie Woodie Manganese Operations

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
632.15		Mechanical Removal	Mineral Production and Associated Activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 26 November 2015

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description The clearing permit application area has been broadly mapped as the following Beard vegetation associations (GIS Database, 2015):

173: Hummock grasslands, shrub steppe; kanji over soft spinifex & *Triodia wiseana* on basalt

177: Hummock grasslands, sparse shrub steppe; *Acacia bivenosa* over hard spinifex, *Triodia brizoides*

82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*

Several flora surveys have been undertaken over the Woodie Woodie tenements. The following communities were identified within the application area (MBS Environmental, 2015):

- 1) Woodland of *Eucalyptus camaldulensis* var. *obtusa* over *Acacia trachycarpa*, *Acacia inaequilatera* and *Ficus brachypoda* over **Cenchrus ciliaris* along major water courses
- 2) Hummock grassland of *Triodia basedowii*, *Triodia pungens* and *Triodia wiseana* with *Acacia bivenosa*, *Acacia pyrifolia* var. *morrisonii*, *Acacia synchornica*, *Hakea lorea* subsp. *lorea* and emergent *Corymbia hamersleyana* and *Corymbia aspera* on undulating plains
- 3) Woodland of *Eucalyptus victrix* over *Acacia arida*, *Petalostylis labicheoides*, *Acacia trachycarpa* and *Acacia pyrifolia* var. *morrisonii* over **Cenchrus ciliaris* on major water courses
- 4) Scrub or thicket of *Carissa lanceolata*, *Petalostylis labicheoides*, *Acacia bivenosa* and *Acacia ancistrocarpa* over *Triodia pungens*, *Triodia basedowii*, **Cenchrus ciliaris* and *Chrysopogon fallax* along minor watercourses
- 5) Scrub or Low Shrubland of *Acacia ancistrocarpa*, *Acacia arida*, *Acacia acradenia*, *Petalostylis labicheoides*, *Gossypium australe*, *Acacia synchronica* and *Acacia inaequilatera* over *Triodia longiceps* and *Triodia wiseana* with patches of **Cenchrus ciliaris*
- 6) Low Shrubland of *Acacia arida* and *Acacia hilliana* over *Triodia wiseana* and *Dampiera candidans* on slopes and hilltops

Clearing Description Woodie Woodie Manganese Operations.
Pilbara Manganese Pty Ltd proposes to clear up to 632.5 hectares of native vegetation within a total boundary of approximately 7,609 hectares for the purpose of mineral production and associated activities. The project is located approximately 400 kilometres south-east of Port Hedland and 100 kilometers east of Nullagine.

Vegetation Condition Very Good: Vegetation structure altered; obvious signs of disturbance (Kieghery, 1994)

Comment The vegetation condition rating was based on information provided by Mattiske Consulting (2008) and MBS Environmental (2015)

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 application area is located within the Chichester subregion of the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database, 2015). The Chichester subregion is characterised by undulating Archaean granite and basalt plains with significant areas of basaltic ranges (CALM, 2002). At a broad scale, vegetation can be described as shrub steppe characterised by *Acacia inaequilatera* over *Triodia wiseana* hummock grasslands on plains, while *Eucalyptus leucophloia* tree steppes occur on ranges (CALM, 2002).

The objective of this application is to consolidate sixteen existing clearing permits (CPS 2669/2, CPS 2810/2, CPS 2912/2, CPS 2980/2, CPS 2981/2, CPS 2999/2, CPS 3064/2, CPS 3473/2, CPS 4000/1, CPS 4065/1, CPS 4323/1, CPS 4793/1, CPS 5189/1, CPS 5498/1, CPS 5498/1, CPS 6142, CPS 6565/1) held by Pilbara Manganese Pty Ltd. Existing live permits are to be surrendered and future clearing is to be conducted under CPS 6792/1. Based on reported annual clearing for existing live permits within the application area, a total of 632.67 hectares has been cleared out of a possible 1256.63 hectares approved to be cleared. The current application to clear up to 632.15 is the remaining amalgamated vegetation allowed to be cleared under the existing sixteen permits.

Several flora and vegetation surveys have been conducted across the Woodie Woodie tenements inclusive of the application area, between 1994 and 2015, recording a total of 335 taxa from 136 genera and 48 plant families (MBS Environmental, 2015). The most common families across the Woodie Woodie tenements are Fabaceae (69 taxa), Poaceae (49 taxa), Malvaceae (37 taxa), Amaranthaceae (18 taxa), and Chenopodiaceae (18 taxa).

A total of 17 plant communities occur over the Woodie Woodie tenements, of which 6 occur within the application area. These 6 plant communities are well represented throughout the region and are therefore not thought to be regionally or locally significant (MBS Environmental, 2015). No Threatened Ecological Communities (TEC's) or Priority Ecological Communities (PEC's) have been recorded or are known to occur within the application area (MBS Environmental, 2015; GIS Database, 2015).

Following a database search, MBS Environmental (2015) identified 25 priority species with the potential to exist in the Woodie Woodie Project area, of which five of these species were recorded during field surveys: *Aristida jerichoensis* var. *subspinulifera* (P1) *Euphorbia clementii* (P2) and *Goodenia* sp. East Pilbara (P3). However, no priority species were recorded in the application area.

A total of 10 weed species have been recorded within the Woodie Woodie tenements: Kapok Bush (*Aerva javaica*), Buffel Grass (*Cenchrus ciliaris*), Purpletop chloris (*Chloris barbata*), Pie Melon (*Citrullus lanatus*), Couch Grass (*Cynodon dactylon*), Native Thornapple (*Datura leichhardtii*), Speedy Weed (*Flaveria trinervia*), Spiked Malvastrum (*Malvastrum Americanum*), Purslane (*Portulaca oleracea*), and Mimosa Bush (*Vachellia famesiana*) (MBS Environmental, 2015). The presence of these introduced weed species lowers the biodiversity value of the application. Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Potential impacts to biodiversity as a result of weed species may be minimised by the implementation of a weed management condition.

Five fauna habitats have been identified within the Woodie Woodie tenements (MBS Environmental, 2015):

- *Acacia* sp. Dominated minor drainage lines;
- *Eucalyptus* and *Melaleuca* fringes creeklines;
- *Triodia* sp, hummock grassland dominated plains;
- Low gorges; and
- Small caves within low gorges

These habitats are common and widely represented in the region (MBS Environmental, 2015).

Western Wildlife conducted a baseline fauna survey in 2006 and 2007, over the Woodie Woodie tenements, inclusive of the application area. The table below shows the number of fauna species recorded during the fauna survey in comparison to the number of species with the potential to occur:

	Amphibians	Reptiles	Birds	Mammals
Potential to Occur	7	79	132	50
Recorded during survey	5	59	76	20

The table above indicates that the application area is potentially high in fauna species diversity, particularly birds and reptiles. However as stated above, the landforms, vegetation types and fauna habitats in the application area are well represented locally and within the Pilbara region generally and therefore, the proposed clearing is unlikely to have a significant impact on biological diversity.

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

Methodology CALM (2002)
GIS Database (2015)
MBS Environmental (2015)

(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 is not likely to be at variance to this Principle**

Five fauna habitats have been identified across the Woodie Woodie tenements (MBS Environmental, 2015):

- 1) Acacia sp. Dominated minor drainage lines;
- 2) Euclayptus and Melaleuca fringes creeklines;
- 3) Triodia sp. Hummock grassland dominated plains;
- 4) Low gorges; and
- 5) Small caves within low gorges

The land systems, vegetation and habitats of the application area are common and widely represented in the region. The clearing permit application area does not contain any unusual habitats such as caves or permanent pools (MBS Environmental, 2015).

Numerous wetland bird species have been recorded during fauna surveys (MBS Environmental, 2015). These species are only likely to be present in the area when water is present and have often been recorded near ephemeral ponds and creek-lines (Davis and Wilcox, 2007). Sites on or near creek lines were found to have the highest species richness of birds during field surveys of the Woodie Woodie tenements (Davis and Wilcox, 2007). Creek lines may also provide habitat for frog species particularly following cyclonic rainfall when creek lines will contain water.

Based on the above, it is likely that creek lines (and drainage lines) within the application area support a variety of fauna, in particular frog and bird species. The proposed clearing will result in some loss of habitat for these species. However due to the migratory nature of many wetland birds and the small scale of clearing associated with drainage lines (12.48) hectares, the proposed clearing is unlikely to have a significant impact. Potential impacts to fauna may be minimised by the implementation of a watercourse management condition.

Western Wildlife was commissioned by Pilbara Manganese Pty Ltd to undertake fauna surveys in the Woodie Woodie project area in 2006/2007 and 2008 (MBS Environmental, 2015). These surveys were conducted in accordance with the Environmental Protection Authority (EPA) Position Statement No.3 and 'Guidance Statement 56: 'Guidance for the Assessment for Environmental Factors – Terrestrial Fauna for Environmental Impact Assessment in Western Australia'

Several species of conservation significance have the potential to occur within the Woodie Woodie project area, with several identified during the fauna surveys:

- Pilbara Olive Python (*Liasis olivaceus barroni*) – Vulnerable under the EPBC Act and WC Act,
- Great Egret (*Ardea modest*) – Migratory under the Japan and Australia Migratory Bird Agreement (JAMBA),
- Wood Sandpiper (*Tringa glareola*) – Migratory under JAMBA, the China and Australia Migratory Bird Agreement (CAMBA), and the Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA)
- Common Sandpiper (*Tringa hypoleucos (Actitis hypoleucos)*) – Migratory under the Bonn convention, JAMBA and ROKAMBA
- Rainbow Bee-eater (*Merops ornatus*) - Migratory under JAMBA
- Pilbara Leaf Nosed Bat (*Rhinonictis aurantia*) – Vulnerable under EPBC Act, Priority 4 under WC Act
- Western Pebble-mound Mouse (*Pseudomys chapmani*) – Priority 4 under WC Act,
- Australian Bustard (*Ardeotis australis*) – Priority 4 under the WC Act,
- Star finch (*Neochmia ruficauda*) – Endangered under the EPBC Act

The Rainbow Bee-eater is a widespread species and common migrant to many parts of Australia, including the Pilbara bioregion (Department of Environment, Water, Heritage and the Arts, 2008). Its habitat includes open woodlands with sandy loamy soils, sandpits, riverbanks, road cuttings, cliffs and dunes (MBS Environmental, 2015). The Rainbow Bee-eater is often observed in disturbed habitats including roadside vegetation and in quarries, mines and gravel pits.

MBS Environmental (2015) advises that suitable sandy slopes for nesting sites are not present in the area

however, individuals have been recorded foraging. The proposed clearing will result in minimal loss of suitable habitat for this species (MBS Environmental, 2015). Given the wide distribution and habitat range of the Rainbow Bee-eater, the vegetation within the application area is unlikely to be representative of significant habitat for this species.

The Western Pebble-mound Mouse generally occurs on gentler slopes of rock ranges where the ground is covered by a stony mulch and vegetated by hard spinifex, often with an overstory of eucalypts and scattered shrubs (Van Dyck and Strahan, 2008). Numerous mounds of this species were located on hills within the application area. A total of 26 mounds were recorded however it is thought that all are currently extinct. Four mounds may have been active recently and included more recent turrets and holes. Suitable habitat for this species is present within the application area, although, it is considered more likely to occur in areas with larger hills (Davis and Wilcox, 2007). Pilbara Manganese should make all contractors aware that Western Pebble-mound mouse may be present in rocky places within the application area, and that these should be avoided where possible.

The Star Finch may occur seasonally around waterholes in the area, and has previously been recorded within the Woodie Woodie tenements (MBS Environmental, 2015). It is possible that this species may occur near the ephemeral creek lines within the application area; however, it is more likely the species would occur near permanent watercourses (MBS Environmental, 2015). Therefore, it is unlikely that the vegetation within this application area represents significant habitat for this species.

The Australian Bustard has been recorded within the Woodie Woodie Project area. It is considered common within the application area (MBS Environmental, 2015). However, given the widespread distribution of this species it is unlikely that the vegetation within the application area would represent significant habitat for this species (DPaW, 2015).

The Common Sandpiper and the Wood Sandpiper have been recorded within sedimentation ponds throughout the area. The Common Sandpiper is widespread throughout Australia although in small numbers. It is thought there are few important sites within Australia due to the amount of suitable habitat for this species (DoE, 2015). The Wood Sandpiper has a wide distribution in Western Australia. Clearing is unlikely to have a significant impact on both of these species (DoE, 2015).

The Pilbara Leaf-nosed Bat is restricted to caves and mine adits (horizontal shafts) with stable, warm and humid microclimates because of its poor ability to thermoregulate and retain water (DoE, 2015). The roost is usually over pools of water in deeper mines, or deep within the mine or cave structure in an area that maintains elevated temperature and humidity. Thus, the roosting site is often at depth in mines; in small crevices within caves, usually those ascending between sedimentary rock layers; and with associated groundwater seeps. In the Pilbara few actual roost clusters have been observed (DoE, 2015). MBS Environmental (2015) advises that there are a very few sites suitable for roosting within the application area.

The Olive Python inhabits rock outcrops, usually close to waterholes which it uses to hunt. There are several records of this species within the greater region from Nullagine (130 kilometres west of the project area) and Meentheena Station (120 kilometres North West of the project area). This species may be present in the application area, particularly in rocky areas; however it is considered unlikely due to the lack of free standing water/permanent water bodies (MBS Environmental, 2015).

Other species have been identified by MBS Environmental to be of local significance in the study area because they are at the limit of their distribution within a specified area, they have a restricted range, or they occur in breeding colonies (MBS Environmental, 2015). This level of significance has no legislative recognition and is based upon interpretation of species distribution. Although restricted to the Pilbara region, these species are likely to be common within suitable habitats (MBS Environmental, 2015)

- Pilbara Ground Gecko (*Lucasium wombeyi*)
- Ruddy Ctenotus (*Ctenotus rubicundus*)
- Pilbara Crevice-Skink (*Egernia pilbarensis*)
- Pilbara Rock Monitor (*Varanus pilbarensis*)
- Pilbara Blind Snake (*Ramphotyphlops pilbarensis*)
- Pilbara Death Adder (*Acanthophis wellsi*)
- Rufous Whipsnake (*Demansia rufescens*)
- Pilbara Bandy-Bandy (*Vermicella snelli*)

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

Methodology GIS Database (2015)
Davis and Wilcox (2007)
DPaW (2015)
Department of Environment, Water, Heritage and the Arts (2008)
DoE (2015)
MBS Environmental (2015)
Van Dyck and Strahan (2008)

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

Comments Proposal not likely to be at variance to this Principle

MBS Environmental report that no threatened flora listed by DPaW under the WC Act, or listed under the EPBC Act have been recorded within the application area (MBS Environmental, 2015).

According to available datasets, there are no known records of threatened flora or threatened flora habitat within the application area (GIS Database, 2015; DPaW, 2015). *Lepidium catapycon* (declared rare flora, vulnerable under the EPBC Act) has the possibility of occurring within the Woodie Woodie tenements, although it has not been recorded in field survey's (MBS Environmental, 2015).

The vegetation communities present are typical of those found within the surrounding area. It is not expected that the proposed clearing will result in the loss of habitat necessary for the continued existence of any threatened flora.

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

Methodology DPaW (2015)
GIS Database (2015)
MBS Environmental (2015)

(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

According to available datasets (GIS Database, 2015), there are no Threatened Ecological Communities (TECs) within the application area.

No Threatened Ecological Communities were identified during flora survey's

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

Methodology GIS Database (2015)

(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 occurs within the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion, in which approximately 99.6% of the pre-European vegetation remains (see table below) (GIS Database, 2015; Government of Western Australia, 2014).

The vegetation within the application area has been mapped as Beard vegetation associations 173,177 and 82 (GIS Database). Given the amount of vegetation remaining in the local area and bioregion, the vegetation proposed to be cleared is not considered to represent remnant vegetation.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW Managed Lands
IBRA Bioregion - Pilbara	17,808,657	17,733,583	99.6	Least Concern	~8.40
Beard vegetation associations - State					
173	1,753,104	1,748,260	99.7	Least Concern	~ 13.6
177	169,445	169,140	99.8	Least Concern	~ 0.85
82	2,565,901	2,553,217	99.5	Least Concern	~ 10.52
Beard vegetation associations - Bioregion					
173	1,752,520	1,747,677	99.7	Least Concern	~ 13.62
177	169,445	169,140	99.8	Least Concern	~ 0.85
82	2,563,583	2,550,898	99.5	Least Concern	~ 10.53

*Government of Western Australia (2014)

** 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)
GIS Database (2015)
Government of Western Australia (2014)

(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

The proposed clearing area is located within an arid environment with no permanent watercourses or wetlands. The headwaters of a number of minor ephemeral drainage lines are located within the proposed clearing area (GIS Database, 2015).

- 1) Woodland of *Eucalyptus camadulensis* over a shrub or thicket of *Acacia trachycarpa*, *Acacia inaequilatera* and *Ficus brachypoda* over *Cenchrus ciliaris*
- 2) Shrub or thicket of *Carissa lanceolata*, *Petalostylis labicheoides*, *Acacia bivenosa* and *Acacia ancistrocarpa* over *Triodia pungens*, *Triodia basedowii*, *Cenchrus ciliaris* and *Chrysopogon fallax*.

Approximatley 5.205 hectares of plant community 1 and 7.276 hectares of plant community 2, occur within the application area. This may reduce habitat mostly for bird and amphibian species.

Based on the above, the proposed clearing is at variance to this principle. However, vegetation associated with watercourses is well represented throughout the Woodie Woodie region. Therefore, the proposed clearing associated with watercourses is unlikely to have a significant impact on any watercourse or wetland.

Methodology MBS Environmental (2015)
GIS Database (2015)

(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 majority of the application area has been mapped as occurring within the Coonigmah Land System (GIS Database, 2015). Smaller areas within the application area are from the McKay Land System, Oakover Land System, Paterson Land System or Rocklea Land System.

The Coonigmah Land System consists of plateau surfaces, low hills with steep slopes and undulating uplands supporting hard *Spinifex* grasslands (Van Vreeswyk et al., 2004). This land system is considered to have a very low erosion risk and the vegetation is not susceptible to degradation (Van Vreeswyk et al., 2004).

The McKay Land System consists of hills, ridges, plateaux remnants and breakaways of meta sedimentary and sedimentary rocks supporting hard *spinifex* grasslands. This system is not prone to degradation or soil erosion (Van Vreeswyk et al., 2004).

The Oakover Land System consists of breakaways, mesas, plateaux and stony plains of calcrete supporting hard *spinifex* grasslands. This system is not generally prone to degradation or susceptible to soil erosion (Van Vreeswyk et al., 2004)

The Rocklea Land System consists of basalt hills, plateaux, lower slopes and minor stony plains supporting hard *spinifex* (and occasionally soft *spinifex*) grasslands. The system is not susceptible to erosion or degradation.

The Paterson Land System consists of stony and sandy plains with isolated low hills of sandstone or conglomerate supporting hard *spinifex* (and occasionally soft *spinifex*) grasslands and minor tussock grasslands. The system is generally not prone to erosion except for alluvial plains and drainage floors, which are moderately susceptible if vegetative cover is depleted. Clearing of drainage lines will only occur for the 'Chris D cutback' which is not within the Paterson Land System.

Based on the information above the proposal is not likely to be at variance to this principle.

Methodology GIS Database (2015)
Van Vreeswyk et al. (2004)

(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 reserves in close proximity to the clearing permit application area. The nearest DPaW managed land is the Karlamilyi National Park, approximately 85 kilometres away (GIS Database, 2015; MBS Environmental, 2015).

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

Methodology MBS Environmental (2015)
GIS Database

(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 clearing permit application area. There are no permanent watercourses or wetlands within the application area (GIS Database, 2015).

The application area is located in an arid region with an average annual rainfall of approximately 327 millimetres falling mainly during the summer months, and an average annual evaporation rate of approximately 3,800mm (MBS Environmental, 2008), hence the presence of surface water resulting from rain events is relatively short-lived.

The application area has several ephemeral drainage lines running through it (GIS Database, 2015). Based on the climate of the region these drainage lines are expected to be dry except following significant rainfall events, usually associated with tropical cyclones.

The groundwater and surface water of the Woodie Woodie region is well documented with over ten years of monitoring data (MBS Environmental, 2008). The groundwater and surface water within the Woodie Woodie region has pH ranges between 7.2 and 8.6 and is generally fresh to brackish (MBS Environmental, 2015).

The natural water table is more than 20 metres below natural ground level, however dewatering efforts have reduced the groundwater table to more than 80 metres below natural ground level (MBS Environmental, 2008). Therefore, the impact of vegetation removal on groundwater levels is not likely to be significant. In addition, due to the arid climate, surface water runoff is expected to be minimal except following significant rainfall. Hence, the proposed clearing of the native vegetation is unlikely to have any significant impact on surface water flows or groundwater level or quality.

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

Methodology GIS Database (2015)
MBS Environmental (2015)

(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 application area is located in an arid region where the average annual evaporation rate greatly exceeds the average annual rainfall (MBS Environmental, 2015). There are no permanent watercourses within the application area, however, several ephemeral drainage lines dissect the proposed clearing area (GIS Database, 2015). These drainage lines are expected to be dry for most of the year, only flowing briefly immediately following significant rainfall (GIS Database, 2015).

Natural flood events do occur in the Pilbara following cyclonic activity. However, the proposed clearing is not expected to increase the incidence or intensity of such events given the size of the area to be cleared (632.15ha) in relation to the Oakover River catchment area (2,001,756ha) (GIS Database).

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

Methodology GIS Database (2015)
MBS Environmental (2015)

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

There is one native title claim (WC1999/008) over the application area (DAA, 2015; GIS Database, 2015). This claim has been registered with the Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are eight Sites (Site ID's: 6331, 6330, 6329, 18746, 18747, 18745, 18744, 18742) of Aboriginal Significance located in the area applied to clear (GIS Database, 2015). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Sites of Aboriginal Significance are damaged through the clearing process.

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

The clearing permit application was advertised on 26 October 2015 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the application.

Methodology DAA (2015)
GIS Database (2015)

Methodology

4. Assessors Comments

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the Environmental Protection Act 1986, and the proposed clearing is not at variance to Principle (d) and (e), is not likely to be at variance to Principles (a), (b), (c), (g), (h), (i) and (j) and is at variance to Principle (f)

5. References

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6. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DPaW and DER)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
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
s.17	Section 17 of the <i>Environment Protection Act 1986</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

{DPaW (2013) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

- T** **Threatened species:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna or the Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).
Threatened Fauna and Flora are further recognised by the Department according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo *Calyptorhynchus latirostris* is specially protected under the *Wildlife Conservation Act 1950* as a threatened species with a ranking of Endangered.
Rankings:
CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild.
EN: Endangered - considered to be facing a very high risk of extinction in the wild.
VU: Vulnerable - considered to be facing a high risk of extinction in the wild.
- X** **Presumed Extinct species:**
Specially protected under the Wildlife Conservation Act 1950, listed under Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora (which may also be referred to as Declared Rare Flora).
- IA** **Migratory birds protected under an international agreement:**
Specially protected under the Wildlife Conservation Act 1950, listed under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice.
Birds that are subject to an agreement between governments of Australia and Japan, China and The Republic of Korea relating to the protection of migratory birds and birds in danger of extinction.
- S** **Other specially protected fauna:**
Specially protected under the Wildlife Conservation Act 1950, listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- P1** **Priority One - Poorly-known species:**
Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, rail reserves and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.
- P2** **Priority Two - Poorly-known species:**
Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.
- P3** **Priority Three - Poorly-known species:**
Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities 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 localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.
- 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 do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.
- P5** **Priority Five - Conservation Dependent species:**
Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.