

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4232/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Pilbara Manganese Pty Ltd

1.3. Property details

Property: M45/639

Local Government Authority: Shire of East Pilbara
Colloquial name: Parrot Project Area

1.4. Application

Clearing Area (ha) No. Trees Method of Clearing For the purpose of: 30.8 Mechanical Removal Mineral Production

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 14 April 2011

Background

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

Beard Vegetation Associations have been mapped at a scale of 1:250,000 for the whole of Western Australia.

One Beard Vegetation Association is located within the application area (Shepherd, 2009):

Beard Vegetation Association 173:

hummock grasslands; shrub steppe; kanji over soft spinifex and *Triodia wiseana* on basalt.

Mattiske Consulting (2008) conducted a flora and vegetation survey over the application area which identified the following six plant communities (MBS Environmental, 2011):

Plant Community 1:

Woodland of Eucalyptus camaldulensis var. obtusa over Acacia trachycarpa, Acacia inaequilatera and Ficus brachypoda over Cenchrus ciliaris along major watercourses.

Plant Community 3:

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.

Plant Community 5:

Scrub or Low Shrubland of Acacia ancistrocarpa, Acacia arida, Acacia acradenia, Petalostylis labicheoides, Gossypium australe, Acacia synchronicia and Acacia inaequilatera over Triodia longiceps and Triodia wiseana with patches of Cenchrus ciliaris on flats, often associated with major watercourses.

Clearing Description

Pilbara Manganese Pty Ltd proposes to clear up to 30.8 hectares of native vegetation for manganese mining within a clearing permit application area totalling 72.8 hectares. The proposed clearing is located within the Parrot Project Area which is located approximately 100 kilometres east of Nullagine.

The purpose of the proposed clearing is for the construction and operation of open pits, haul roads, waste rock landforms and temporary topsoil stockpiles.

Vegetation Condition

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).

То

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Comment

The vegetation condition rating is derived from information provided by MBS Environmental. MBS Environmental (2011) reports the condition of the vegetation within the application area as being generally good condition except for areas of localised disturbances due to impacts from previous mining activities, fire and weeds.

Plant Community 6:

Low Shrubland of *Acacia arida* and *Acacia hilliana* over *Triodia wiseana* and *Dampiera candicans* on slopes and hilltops.

Plant Community 8:

Hummock Grassland of *Triodia longiceps* and *Triodia wiseana* with occasional *Grevillea* wickhamii subsp.hispidula on flats and lower slopes.

Plant Community 10:

Hummock Grassland of *Triodia basedowii*, *Triodia pungens* and *Triodia wiseana* with *Acacia bivenosa*, *Acacia pyrifolia* var. *morrisonii*, *Acacia synchronicia*, *Hakea lorea* subsp. *lorea* and emergent *Corymbia hamersleyana* and *Corymbia aspera* on undulating plains and slopes.

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 of Australia (IBRA) bioregion (GIS Database). One Beard Vegetation Association is located within the application area (Shepherd, 2009):

Beard Vegetation Association 173: hummock grasslands; shrub steppe; kanji over soft Spinifex and *Triodia* wiseana on basalt.

CALM (2002) reports that hummock grasslands of the Chichester subregion have the potential to host high reptile and high small mammal diversity however these grasslands have a medium to low reservation priority and Beard Vegetation Association 173 retains approximately 100% of its pre-European vegetation extent within the Bioregion (Shepherd, 2009).

Western Wildlife has conducted numerous spring and autumn fauna surveys of the Woodie Woodie tenements (MBS Environmental, 2011). The most recent survey was conducted over two days in May 2010 which included the Parrot Project Area. Western Wildlife (2010) have identified 10 fauna species of conservation significance, 9 of which have a low likelihood of occurring within the habitats of the clearing permit application area. However the vegetation and habitats present are well represented on a regional scale and are unlikely to represent significant habitat in a regional context (MBS Environmental, 2011). The Rainbow Bee-eater (*Merups ornatus*) (Schedule 3, Migratory) was recorded in the Parrot Project Area in April 2010. The Rainbow Bee-eater is a common species which migrates southwards in summer to breed and is common within the Woodie Woodie tenements (MBS Environmental, 2011).

The application area is located within the buffer zone of a Priority 3 Ecological Community (Stony saline clay plains of the Mosquito Land System) (GIS Database). This community is described as saltbush community of the duplex plains however no saltbush communities were recorded within the application area (MBS Environmental, 2011). The proposed clearing is not likely to significantly impact the Priority Ecological Community.

Mattiske Consulting conducted a flora and vegetation survey in April and October 2008 of areas within Mining Lease 45/639 (MBS Environmental, 2011). A total of 85 taxa from 21 families and 45 genera were recorded within Mining Lease 45/639 (MBS Environmental, 2011) and the species recorded are likely to be representative of the area applied to be cleared.

No Priority or Declared Rare Flora species have been recorded within the clearing permit area and the mapped plant communities are well represented throughout the region and are not considered to be regionally or locally significant (MBS Environmental, 2011). It is therefore not likely that the area to be cleared comprises a high level of biological diversity in a regional context.

Two introduced weed species were recorded in the survey area (MBS Environmental, 2011) however a weed management condition will reduce the risk of the spread or introduction of weed species to non-infested areas.

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

Methodology CALM (2002)

MBS Environmental (2011) Shepherd (2009) Western Wildlife (2010) GIS Database

- Interim Biogeographic Regionalisation of Australia

(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

Western Wildlife has conducted numerous spring and autumn fauna surveys of the Woodie Woodie tenements (MBS Environmental, 2011). The most recent survey was conducted over two days in May 2010 which included the Parrot Project Area.

Western Wildlife (2010) identified three habitat types in the clearing permit application area; spinifex on rocky hills, spinifex on low stony hills, and minor creeklines. The land systems, vegetation and habitats of the project area are common and widely represented in the region (MBS Environmental, 2011).

A total of 274 fauna species have the potential to occur within the Woodie Woodie area including up to seven amphibian, 78 reptile, 138 bird and 51 mammal species (MBS Environmental, 2011). Of these five amphibian, 60 reptile, 95 bird and 24 mammal species have been observed (MBS Environmental, 2011).

The Rainbow Bee-eater (*Merups ornatus*) (Schedule 3, Migratory) was recorded in the Parrot Project Area in April 2010. The Rainbow Bee-eater is a common species which migrates southwards in summer to breed and is common within the Woodie Woodie tenements (MBS Environmental, 2011). Western Wildlife (2010) have identified 9 other fauna species of conservation significance which have a low likelihood of occurring within the habitats of the clearing permit application area:

- Pilbara Olive Python (Liasis olivaceus barroni) Schedule 1, Vulnerable;
- Peregrine Falcon (Falco peregrinus) Schedule 4;
- Australian Bustard (Ardeotis australis) Priority 4;
- Western Star Finch (Neochmia ruficauda) Priority 4;
- Long Tailed Dunnart (Sminthopsis longicaudata) Priority 4;
- Great Egret (Ardea alba) Migratory;
- Wood Sandpiper (Trigna glareola) Schedule 3, Migratory;
- Common Sandpiper (Trigna hypoleucos) Schedule 3, Migratory; and
- Western Pebble-mound Mouse (Pseudomys chapmani) Priority 4.

No suitable wetland habitat for the Common Sandpiper, Great Egret, Wood Sandpiper and Western Star Finch has been identified within the application area (MBS Environmental, 2011). Inactive Western Pebble-mound Mouse mounds have been recorded within the Parrot Project Area (Western Wildlife, 2010) however suitable habitat for this species is common within the Woodie Woodie tenements (Western Wildlife, 2010). Although some suitable habitat may occur within the application area for the remaining species the vegetation and habitats present are well represented on a regional scale and are unlikely to represent significant habitat in a regional context (MBS Environmental, 2011).

Given the high levels of disturbance adjacent to the application area for the purpose of mineral production in the form of open pits, waste dumps and mine infrastructure and considering that the habitats present in the clearing permit application area are common on both a local and regional scale, it is not likely that the loss of 30.8 hectares of native vegetation will comprise a significant habitat for fauna indigenous to Western Australia.

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

Methodology MBS Environmental (2011)

Western Wildlife (2010)

(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

Mattiske Consulting conducted a flora and vegetation survey in April and October 2008 of areas within Mining Lease 45/639 (MBS Environmental, 2011).

No Declared Rare Flora species have been recorded within the Woodie Woodie tenements and it is therefore not likely that the area to be cleared includes, or is necessary for the continued existence of, rare flora.

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

Methodology MBS Environmental (2011)

(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) within the area under application and the closest known TEC is located approximately 216 kilometres southwest of the application area (GIS Database).

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

Methodology MBS Environmental (2011)

GIS Database

- Threatened Ecological Sites Buffered

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

Comments Proposal is not at variance to this Principle

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Pilbara	17,804,193	17,785,000	~100	Least Concern	~6.3
Beard veg assoc. – State					
173	1,421,376	1,421,376	~100	Least Concern	~4.8
Beard veg assoc. – Bioregion					
173	1,420,792	1,420,792	~100	Least Concern	~4.8

^{*} Shepherd (2009)

Beard vegetation association 173 retains approximately 100% of its pre-European extent which is more than the 30% threshold level recommended in the National Objectives Targets for Biodiversity Conservation below which, species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000).

Given that the vegetation is well represented locally and regionally the vegetation within the proposed area is not likely to be significant as a remnant in a highly cleared landscape and the clearing is not at variance to this clearing principle.

Methodology Department of Natural Resources and Environment (2002)

EPA (2000) Shepherd (2009) GIS Database

- Interim Biogeographic Regionalisation of Australia

(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 mapped within the area under application (GIS Database) however there are two ephemeral watercourses (GIS Database).

MBS Environmental (2011) has identified two plant communities within the application area growing in association with watercourses however these plant communities are common throughout the Woodie tenements and the impact of this clearing is unlikely to be significant in a regional context (MBS Environmental, 2011).

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

Methodology

MBS Environmental (2011)

GIS Database

- 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 is located within the Coonigmah land system (GIS Database).

The Coonigmah land system is described by Van Vreeswyk et al. (2004) as consisting of plateaux surfaces, low hills with steep slopes and undulating uplands supporting hard spinifex grasslands which have a very low erosion risk.

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

Methodology

Van Vreeswyk et al. (2004)

GIS Database

Rangeland Land System Mapping

^{**} Department of Natural Resources and Environment (2002)

(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

The proposed clearing is not located within any conservation areas (GIS Database). The nearest Department of Environment and Conservation managed land is the Karlamilyi National Park located approximately 90 kilometres south-east of the application area (GIS Database).

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

Methodology GIS Database

- DEC Managed Land and Waters
- (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

The East Pilbara is an arid environment. Surface water runoff only occurs during and immediately following significant rainfall events. Groundwater within the application area has low salinity levels of between 350 to 850 milligrams per litre (Total Dissolved Solids) and recharge is estimated to be approximately 15 % of annual rainfall. The depth to the water table in the application area is greater than 20 metres (MBS Environmental, 2011) and it is therefore not likely that the removal of native vegetation will 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 MBS Environmental (2011)

(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 watercourses within the application area however numerous ephemeral drainage lines dissect the proposed clearing area (GIS Database).

Natural flood events do occur within the Pilbara region following cyclonic activity however the proposed clearing of 30.8 hectares is not expected to increase the incidence or intensity of such events.

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, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

There is one Native Title Claim (WC99/8) over the area under application (GIS Database). This claim has been registered with the National 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 no registered Aboriginal Sites of Significance within the application area (GIS Database). 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 Environment and Conservation 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 28 February 2010 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received to the proposed clearing.

Methodology

GIS Database

- Aboriginal Sites of Significance
- Native Title Claims

4. References

- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- MBS Environmental (2011) Woodie Woodie Operations, Clearing Permit (Purpose Permit) Application, Parrot Project Area,
 Native Vegetation Management Plan and Assessment of Clearing Principles, prepared for Pilbara Manganese Pty
 Ltd. Unpublished report. Martinick Bosch Sell Pty Ltd, Western Australia.
- Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.
- 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.
- Western Wildlife (2010) level 1 Fauna survey in five prospect areas, 2010: Unpublished report. Western Wildlife, Western Australia.

5. Glossary

Acronyms:

BoM Bureau of Meteorology, Australian Government

CALM Department of Conservation and Land Management (now DEC), Western Australia

DAFWA Department of Agriculture and Food, Western Australia

DEC Department of Environment and Conservation, Western Australia

DEH Department of Environment and Heritage (federal based in Canberra) previously Environment Australia

DEP Department of Environment Protection (now DEC), Western Australia

DIA Department of Indigenous Affairs

DLI Department of Land Information, Western Australia
 DMP Department of Mines and Petroleum, Western Australia
 DoE Department of Environment (now DEC), Western Australia

DoIR Department of Industry and Resources (now DMP), Western Australia

DOLA Department of Land Administration, Western Australia

DoW Department of Water

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

RIWI Act Rights in Water and Irrigation Act 1914, Western Australia

s.17 Section 17 of the Environment Protection Act 1986, Western Australia

TEC Threatened Ecological Community

Definitions:

{Atkins, K (2005). Declared rare and priority flora list for Western Australia, 22 February 2005. Department of Conservation and Land Management, Como, Western Australia}:-

P1 Priority One - Poorly Known taxa: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

P2 Priority Two - Poorly Known taxa: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

Priority Three - Poorly Known taxa: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.

P4 Priority Four – Rare taxa: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.

- **Poeclared Rare Flora Extant taxa** (= Threatened Flora = Endangered + Vulnerable): taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
- X Declared Rare Flora Presumed Extinct taxa: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

- Schedule 1 Fauna that is rare or likely to become extinct: being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
- Schedule 2 Schedule 2 Fauna that is presumed to be extinct: being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
- Schedule 3 Birds protected under an international agreement: being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.
- Schedule 4 Other specially protected fauna: being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). Priority Codes for Fauna. Department of Conservation and Land Management, Como, Western Australia}:-

- Priority One: Taxa with few, poorly known populations on threatened lands: Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- Priority Two: Taxa with few, poorly known populations on conservation lands: Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- Priority Three: Taxa with several, poorly known populations, some on conservation lands: Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- Priority Four: Taxa in need of monitoring: Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.
- **P5 Priority Five: Taxa in need of monitoring**: Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of threatened species (Environment Protection and Biodiversity Conservation Act 1999)

- **EX Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.
- **EX(W) Extinct in the wild:** A native species which:
 - (a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
 - (b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
- **CR Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- **EN Endangered:** A native species which:
 - (a) is not critically endangered; and
 - (b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- VU Vulnerable: A native species which:
 - (a) is not critically endangered or endangered; and
 - (b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
- **CD Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.