



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4568/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Robe River Mining Co Pty Ltd

1.3. Property details

Property: Iron Ore (Robe River) Agreement Act 1964, Special Lease for Mining Operations 3116/4622 (Document I 123390 L), Lots 52, 61, 63 and 106 on Deposited Plan 54397
Local Government Area: Shire of Ashburton
Colloquial name: Maitland Siding Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
8.9		Mechanical Removal	Railway Siding Extension and Associated Works

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 20 October 2011

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
<p>Beard vegetation associations have been mapped for the whole of Western Australia. One Beard vegetation association has been mapped within the application area:</p> <p>587: Mosaic: Hummock grasslands, open low tree-steppe; snappy gum over <i>Triodia wiseana</i>/hummock grasslands, shrub-steppe; kanji over <i>Triodia pungens</i> (GIS Database).</p> <p>A biologist from ENV Australia conducted a flora and vegetation survey over the application area in May 2011 (ENV Australia, 2011). Four vegetation types were identified within the application area as well as some areas designated as disturbed/cleared (ENV Australia, 2011).</p> <p>Tw: Open hummock grassland of <i>Triodia wiseana</i>. AtAbTw: Open shrubland of <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia bivenosa</i> over open hummock grassland of <i>Triodia wiseana</i>. EvAtAbCc: Low open woodland of <i>Eucalyptus victrix</i> over scattered shrubs of <i>Acacia tumida</i> var. <i>pilbarensis</i> and <i>Acacia bivenosa</i> over open tussock grassland of <i>Cenchrus ciliaris</i> over very open sedgeland of <i>Cyperus vaginatus</i>. EvTeLf: Scattered low trees of <i>Eucalyptus victrix</i> over open hummock grassland of <i>Triodia epactia</i> over very open tussock grassland of <i>Leptochloa fusca</i>.</p>	<p>Robe River Mining Co Pty Ltd has applied to clear up to 8.9 hectares of native vegetation for the purposes of railway siding extension and associated works. The extension of the Maitland Siding is required to facilitate the replacement of the ore fleet cars and the rail works will include geotechnical investigations, formation earthworks, drainage, sub-ballast capping, track work and signalling. The application area is located approximately 65 kilometres south of Karratha.</p> <p>Vegetation will be cleared using dozers with their blade down. Vegetation will be stockpiled and used in rehabilitation.</p>	<p>Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).</p> <p>To:</p> <p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).</p>	<p>The vegetation condition was assessed by a biologist from ENV Australia (2011). The vegetation conditions were described using a scale based on Trudgen (1991) and have been converted to the corresponding conditions from the Keighery (1994) scale.</p>

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 occurs within the Chichester subregion of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by plains supporting a shrub steppe of *Acacia inaequilatera* over *Triodia wiseana* hummock grasslands, while *Eucalyptus leucophloia* tree steppes occur on ranges (CALM, 2002).

The vegetation within the application area is broadly mapped as Beard vegetation association 587, which has approximately 100% of its pre-European vegetation extent remaining in the bioregion (Shepherd, 2009; GIS Database). A flora and vegetation survey of the application area was undertaken by an ENV Australia biologist in May 2011. A total of 57 vascular plant taxa from 48 genera belonging to 22 families were recorded within the study area (ENV Australia, 2011). The species richness was considered low given that typically species rich habitats such as creeklines occurred within the study area (ENV Australia, 2011). The paucity of flora may be attributable to impacts by rail, road and associated infrastructure as well as grazing by cattle (ENV Australia, 2011).

No Declared Rare Flora, Priority Flora, Threatened Ecological Communities or Priority Ecological Communities were recorded during the botanical survey or have previously been recorded within the application area (ENV Australia, 2011; GIS Database).

Three introduced flora species were recorded from the application area (ENV Australia, 2011). These weed species were Buffel Grass (*Cenchrus ciliaris*), Spiked Malvastrum (*Malvastrum americanum*) and Ulcardo Melon (*Cucumis melo* subsp. *agrestis*) (ENV Australia, 2011). 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 the proposed clearing may be minimised by the implementation of a weed management condition.

Two fauna habitat types were identified within the application area, low hills and minor drainage lines, and both are well represented in the locality and region (ENV Australia, 2011). The low hills habitat in the Pilbara generally has a low level of fauna diversity while the minor drainage line habitat in the Pilbara generally has a moderate level of fauna diversity (ENV Australia, 2011). The application area is not likely to comprise a high level of fauna diversity.

The application area is adjacent to the existing Maitland rail siding and part of the application area has been mapped as disturbed or cleared due to the rail and rail access road (ENV Australia, 2011). The disturbance has diminished the quality of vegetation within the application area and the fauna habitats it provides.

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

Methodology

CALM (2002)
ENV Australia (2011)
Shepherd (2009)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered

(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

No targeted fauna surveys have been conducted over the application area. A desktop review was conducted then a field survey was undertaken in May 2011 to determine the available fauna habitat types (ENV Australia, 2011).

Two broad fauna habitat types were identified within the application area, low hills and minor drainage lines (ENV Australia, 2011). The low hill habitat type occurred over the majority of the application area and was characterised by low undulating hills and vegetation types Tw and EvTeLf. There was a low diversity of microhabitats with few logs, debris and hollows provided by the vegetation and the soil was hard and unsuitable for burrowing fauna (ENV Australia, 2011). The low hill habitat is considered to be of low habitat value (ENV Australia, 2011). The minor drainage line habitat occurred in less than 20% of the application area and consisted of vegetation types AtAbTw and EvAtAbCc. This habitat type had a moderate diversity of microhabitats with logs, debris, tree hollows and occasional soft soils being present (ENV Australia, 2011). The minor drainage line habitat also provided a movement corridor to be utilised by some fauna when dispersing and is considered to be of moderate habitat value (ENV Australia, 2011).

The fauna habitats identified within the application area are well represented in the local area and the region (ENV Australia, 2011). Therefore it is considered unlikely that the application area represents 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 ENV Australia (2011)

(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

According to available databases there are no known records of Declared Rare Flora (DRF) within the application area (GIS Database). The nearest record of DRF is located approximately 143 kilometres south-east of the application area (GIS Database).

A flora and vegetation survey was conducted over the application area by an ENV Australia biologist in May 2011 and no DRF were recorded (ENV Australia, 2011).

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

Methodology ENV Australia (2011)

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

A search of available databases revealed there are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest recorded TEC, *Themeda* grasslands on cracking clays, is located approximately 107 kilometres south-east of the application area (GIS Database).

No TECs were identified during the field survey conducted by ENV Australia biologists in May 2011 (ENV Australia, 2011).

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

Methodology ENV Australia (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

The clearing application area falls within the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion in which approximately 99.9% of the pre-European vegetation remains (see table) (Shepherd, 2009; GIS Database). This gives it a conservation status of 'Least Concern' according to the Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment, 2002).

The vegetation of the clearing application area has been mapped as Beard vegetation association 587 'Mosaic: Hummock grasslands, open low tree-steppe; snappy gum over *Triodia wiseana*/hummock grasslands, shrub-steppe; kanji over *Triodia pungens*' (GIS Database). According to Shepherd (2009) approximately 100% of Beard vegetation association 587 remains at a state and bioregional level (see table). This vegetation association would be given a conservation status of 'Least Concern' at both a state and bioregional level (Department of Natural Resources and Environment, 2002).

	Pre-European Area (ha)*	Current Extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Pilbara	17,804,193	17,785,001	~99.9	Least Concern	6.3
Beard Veg Assoc. – State					
587	585,716	585,716	~100	Least Concern	21.0
Beard Veg Assoc. – Bioregion					
587	585,716	585,716	~100	Least Concern	21.0

* Shepherd (2009)

** Department of Natural Resources and Environment (2002)

The vegetation under application is not a remnant of vegetation in an area that has been extensively cleared.

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

Methodology Department of Natural Resources and Environment (2002)
Shepherd (2009)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- 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 application area (GIS Database). There are four minor drainage lines that intersect the application area (ENV Australia, 2011).

ENV Australia biologists described four vegetation types within the application area and three of these are associated with minor drainage lines, vegetation types AtAbTw, EvAtAbCc and EvTeLf (ENV Australia, 2011).

Based on the above, the proposed clearing is at variance to this Principle. However, vegetation associated with minor drainage lines is widespread in the Pilbara region and due to the small size of the proposed clearing there is unlikely to be significant impacts on any watercourse or wetland.

Methodology ENV Australia (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

According to available datasets the application area is within the Rocklea Land System (GIS Database). The Rocklea Land System is characterised by basalt hills, plateaux, lower slopes and minor stony plains supporting hard spinifex (and occasionally soft spinifex) grasslands (Van Vreeswyk et al., 2004). Van Vreeswyk et al. (2004) report that this system has a very low erosion risk.

Robe River Mining Co Pty Ltd has applied to clear up to 8.9 hectares for an extension to a railway siding and associated works. The proposed clearing activities are not likely to result in large areas of disturbed or open land. Given the small size of the proposed activities, the clearing is not likely to result in appreciable land degradation.

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

(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 a conservation reserve (GIS Database). The nearest conservation area is Millstream Chichester National which is located approximately 10 kilometres east of the application area (GIS Database). A large proportion of the vegetation in the Pilbara bioregion remains uncleared, approximately 99.9% (Shepherd, 2009), and in the local area there is still a large proportion of the vegetation remaining to provide a buffer for the national park (GIS Database).

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

Methodology Shepherd (2009)
GIS Database:
- DEC Tenure
- Pinderi Hills 1.4 m Orthomosaic - Landgate 2000
- Register of National Estate

(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

According to available databases the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The nearest PDWSA is Harding Dam Catchment Area, which is approximately 1 kilometre south of the application area (GIS Database). The small area of the proposed clearing is unlikely to cause deterioration in the quality of underground water.

There are no permanent wetlands or watercourses within the application area (GIS Database). There are four minor drainage lines that cross the application area (ENV Australia, 2011) but these would only flow for short periods following heavy rainfall. The proposed clearing is unlikely to cause deterioration in the quality of surface water in the local area.

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

Methodology ENV Australia (2011)
GIS Database:
- Hydrography, Linear
- Public Drinking Water Source Areas (PDWSAs)

(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 within the Maitland River catchment area (GIS Database). Given the size of the area to be cleared (8.9 hectares) in relation to the size of the catchment area (199,381 hectares) (GIS Database), the proposed clearing is not likely to increase the potential of flooding on a local or catchment scale.

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

Methodology GIS Database:
- Hydrographic Catchments - Catchments

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

There is one Native Title Claim (WC99/14) 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 is one registered Aboriginal Sites of Significance (Site ID: 18088) 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 5 September 2011 by the Department of Mines and Petroleum inviting submissions from the public. One submission was received advising there was no objection to the proposed clearing.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Determined by the Federal Court

4. References

- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. 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.
- ENV Australia (2011) Maitland Siding Southern Extension Flora, Vegetation and Fauna Assessment. Unpublished Report Prepared by ENV Australia Pty Ltd for Rio Tinto Iron Ore, July 2011.

- Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, 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., Leighton, K.A. and Hennig, P. (2004) *Technical Bulletin - An Inventory and Condition Survey of the Pilbara Region, Western Australia*, No. 92. Department of Agriculture, Government of Western Australia, Perth, 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.
- P3** **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.
- R** **Declared 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** **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** **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** **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} :-

- P1** **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.
- P2** **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.
- P3** **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.
- P4** **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.