

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4322/1

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, Mineral Lease 248SA (AML 70/248)

Local Government Area: Shire of Ashburton

Colloquial name: Warramboo Haul Road Borrow Pit

1.4. Application

Clearing Area (ha) No. Trees Method of Clearing For the purpose of:

Mechanical Removal Mineral Production and Mine Support Infrastructure

1.5. Decision on application

Decision on Permit Application: Granted

Decision Date: 26 May 2011

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application Vegetation Description Clearing Description

Beard vegetation associations have been mapped at a 1:250,000 scale for the whole of Western Australia. One Beard vegetation association has been mapped within the application area (GIS Database).

583: Hummock grasslands, sparse shrub steppe; kanji and *Acacia bivenosa* over hard spinifex *Triodia basedowii* and *T. wiseana*.

A vegetation and flora survey was undertaken over most of the application area by Biota Environmental Sciences (Biota) in March 2011 (Biota, 2011). Vegetation mapping conducted as part of a larger survey in August 2009 also covers part of the application area (Biota, 2010).

Three vegetation types were identified within the application area, all of which were recorded from the plains and low undulating hills landform (Biota, 2010, 2011).

AatAiAarAbTw: Acacia atkinsiana, Acacia inaequilatera tall open shrubland over Acacia arida, Acacia bivenosa open shrubland over Triodia wiseana hummock grassland.

AiAbTw: Acacia inaequilatera scattered tall shrubs over Acacia bivenosa scattered low shrubs over Triodia wiseana hummock grassland.

CODcAbAatTw: Codonocarpus cotinifolius scattered low trees over Acacia atkinsiana, Acacia bivenosa low open shrubs over Triodia wiseana very open hummock grassland.

Robe River Mining Co Pty Ltd has applied to clear up to 30 hectares of

applied to clear up to 30 nectares or native vegetation within an application area of approximately 55.6 hectares. The purpose of the clearing is for the establishment of borrow pits, laydown areas, access roads, topsoil stockpiles, water bores and other mine support infrastructure.

The borrow pits are needed to provide the bulk material required for the construction of a haul road between the Warramboo pit and Mesa A in the Robe Valley. The application area is located approximately 75 kilometres east of Onslow.

Vegetation will be cleared using dozers with their blade down.
Vegetation will be stockpiled and used in rehabilitation.

Vegetation Condition

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

To:

Pristine: No obvious signs of disturbance (Keighery, 1994).

Comment

The vegetation condition was assessed by botanists from Biota. The vegetation conditions were described using a scale based on Trudgen (1988) and have been converted to the corresponding conditions from the Keighery (1994) scale.

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 Hamersley (PIL3) Interim Biogeographic Regionalisation of Australia (IBRA) subregion (GIS Database). This subregion is generally described as Mulga low woodland over bunch grasses on fine textured soils in valley floors, and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges (CALM, 2002).

The vegetation within the application area is broadly mapped as Beard vegetation association 583, which has approximately 100% of its pre-European vegetation extent remaining in the bioregion (Shepherd, 2009; GIS Database). Vegetation mapping of most of the application area was conducted by Biota botanists in August 2009 and March 2011 (Biota, 2010, 2011). The vegetation types identified within the application area are typical of the vegetation in the local area and the Hamersley subregion (Biota, 2011).

A flora survey was undertaken by Biota botanists in March 2011 that covered 45 hectares of the 55.6 hectare application area (Biota, 2011). A total of 36 taxa of native vascular flora, belonging to 24 genera from 15 families, were recorded from the flora survey area (Biota, 2011). The genera with the highest number of taxa recorded were *Acacia*, *Senna* and *Ptilotus* (Biota, 2011). The number of native flora species recorded is within the expected range for an area of this size in this locality (Biota, 2011).

No Declared Rare Flora, Priority Flora or Threatened Ecological Communities were recorded within the application area (Biota, 2010, 2011; GIS Database). Several occurrences of Priority Ecological Communities (PECs) have been recorded in the vicinity of the application area (Biota, 2011; GIS Database). These PECs are 'subterranean invertebrate communities of mesas in the Robe Valley region' and 'subterranean invertebrate community of pisolitic hills in the Pilbara' (DEC, 2010; Biota, 2011). The application area is outside the mesa deposit (Biota, 2006) so the proposed clearing is unlikely to significantly affect the mesas or hills in the area. The closest PEC is approximately 2.5 kilometres south-east of the application area and the clearing is not expected to impact any PEC (Biota, 2011).

Two introduced flora species were recorded from the application area (Biota, 2011). These weed species were Buffel Grass (*Cenchrus ciliaris*) and Purslane (*Portulaca oleracea*) (Biota, 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.

There is one broad fauna habitat type within the application area. It is described as a stony plain of *Acacia* tall open shrubland over *Triodia* open hummock grassland (Biota, 2011). This habitat type occurs in many areas within the Warramboo and Mesa A locality and is widespread in the Pilbara bioregion (Biota, 2011). Given that the fauna habitat present within the application area is abundant locally and in the wider region, the application area is not expected to comprise a high level of fauna diversity in a regional context.

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

Methodology Biota (2006)

Biota (2010)

Biota (2011)

CALM (2011)

CALM (2002)

DEC (2010)

Shepherd (2009)

GIS Database:

- Declared Rare and Priority Flora List
- IBRA WA (Regions Sub Regions)
- Pre-European Vegetation
- 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

Targeted fauna surveys have been undertaken in the Warramboo and Mesa A areas, with 22 fauna sampling sites located within a 10 kilometre radius of the application area (Biota, 2011). Biota (2011) used this data, along with other databases, to compile a list of fauna species potentially occurring in the application area. A total of 22 native non-volant mammal, four introduced mammal, nine bat, 158 bird, 84 reptile and four amphibian species have been recorded in proximity to the application area (Biota, 2011).

There is one broad fauna habitat type within the application area. It is described as a stony plain of *Acacia* tall open shrubland over *Triodia* open hummock grassland (Biota, 2011). This habitat type occurs in many areas within the Warramboo and Mesa A locality and is widespread in the Pilbara bioregion (Biota, 2011). No significant habitat features such as caves or wetlands are present within the application area (Biota, 2011).

Given the fauna habitat present within the application area is widespread and abundant in the locality and the wider region, it is unlikely to provide 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 Biota (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 230 kilometres southeast of the application area (GIS Database).

Flora and vegetation surveys were conducted by Biota botanists in August 2009 and March 2011 over the vast majority of the application area (Biota, 2010, 2011). No DRF species were recorded within the application area (Biota, 2010, 2011).

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

Methodology E

Biota (2010)

Biota (2011)

GIS Database:

- Declared Rare and Priority Flora List

(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 150 kilometres south-east of the application area (GIS Database).

No TECs were identified during the flora and vegetation surveys conducted by Biota botanists (Biota, 2010, 2011).

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

Methodology

Biota (2010)

Biota (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 broadly mapped as Beard vegetation association 583 'Hummock grasslands, sparse shrub steppe; kanji and *Acacia bivenosa* over hard spinifex *Triodia basedowii* and *T. wiseana*' (GIS Database). According to Shepherd (2009) approximately 100% of Beard vegetation association 583 remains at the state and bioregional levels. 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).

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

	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					
583	585,716	585,716	~100	Least Concern	21.0
Beard Veg Assoc. – Bioregion					
583	585,716	585,716	~100	Least Concern	21.0

^{*} Shepherd (2009)

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 not likely to be at variance to this Principle

According to available databases, there are no watercourses or wetlands within the application area (GIS Database). The vegetation within the application area is not considered to be growing in association with any watercourse or wetland.

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

Methodology

GIS Database:

- Geodata, Lakes
- Hydrography, Linear

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments

Proposal is not likely to be at variance to this Principle

According to available datasets the application area intersects the Peedamulla and Capricorn Land Systems (GIS Database).

The majority of the application area is within the Peedamulla Land System (GIS Database). The Peedamulla Land System is characterised by gravelly plains supporting hard spinifex grasslands and minor snakewood shrublands (Van Vreeswyk et al., 2004). This land system has very low occurrences of erosion (Van Vreeswyk et al., 2004).

A small proportion of the application area is within the Capricorn Land System (GIS Database). The Capricorn Land System is characterised by hills and ridges of sandstone and dolomite supporting shrubby hard and soft spinifex grasslands (Van Vreewyk et al., 2004). The stony surfaces of the landforms in this land system provide resistance to erosion (Van Vreeswyk et al., 2004).

The small scale of clearing needed in order to take borrow material may result in some localised erosion during the extraction phase within the borrow pit envelope (Rio Tinto, 2010). Potential land degradation impacts as a result of the proposed clearing may be minimised by the implementation of a rehabilitation condition.

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

Methodology F

Rio Tinto (2010)

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 with a conservation reserve (GIS Database). The nearest conservation area is Cane River Conservation Park, which is located approximately 34 kilometres south of the application area (GIS Database). A large proportion of the vegetation in the Pilbara bioregion remains uncleared, approximately 99.9% (Shepherd, 2009), so it is unlikely that the application area provides an important buffer or ecological linkage for the conservation park.

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

Methodology Shepherd (2009)

GIS Database:

- DEC Tenure
- Register of National Estate (Status)

(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 permanent watercourses or wetlands within the application area (GIS Database). Given that there are no drainage features within the application area (Biota, 2011) it is unlikely that the proposed clearing will cause deterioration in the quality of surface water in the local area.

According the available databases the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The nearest PDWSA is Cane River Water Reserve, which is approximately 46 kilometres to the west (GIS Database).

The small area of the proposed clearing is unlikely to cause deterioration in the quality of underground water.

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

Methodology Biota (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 intersects the Coastal and Robe River catchment areas of the Indian Ocean basin (GIS Database). Given the size of the area to be cleared (30 hectares) in relation to the size of the catchment areas (423,129 hectares and 757,138 hectares, respectively) (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 (WC99/12) 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 25 April 2011 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology GIS Database:

- Aboriginal Sites of Significance
- Native Title Claims Registered with the NNTT

4. References

- Biota (2006) A Vegetation and Flora Survey of the Proposed Mesa A Transport Corridor, Warramboo Deposit and Yarraloola Borefield. Report by Biota Environmental Services Pty Ltd for Robe River Iron Associates, January 2006.
- Biota (2010) A Vegetation and Flora Survey of Warramboo Summary Report. Unpublished Report by Biota Environmental Services for Rio Tinto Iron Ore, May 2010.
- Biota (2011) Warramboo Haul Road Borrow Pit Native Vegetation Clearing Permit Report. Unpublished Report by Biota Environmental Services for Rio Tinto Iron Ore, April 2011.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 3 (PIL3 Hamersley Subregion). Department of Conservation and Land Management, Western Australia.
- DEC (2010) Priority Ecological Communities for Western Australia. Species and Communities Branch, Department of Environment and Conservation, December 2010.
- 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.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Rio Tinto (2010) Statement Addressing the 10 Clearing Principles Extension of the Borrow Pit for the Warramboo WAR Road. Unpublished Report by Rio Tinto, November 2010.
- 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.
- Trudgen, M.E. (1988) A Report on the Flora and Vegetation of the Port Kennedy Area. Unpublished Report Prepared for Bowman Bishaw and Associates, West 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, 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

DLIDepartment 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)

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}:-

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 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}:-

- 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.
- 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.
- 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.