Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3856/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Robe River Mining Co Pty Ltd**

1.3. Property details

Property: *Iron Ore (Cleveland Cliffs) Agreement Act 1964*, Special Lease for Mining Operations, Document I 123390 L, Lot 63 on Deposited Plan 54397;
Iron Ore (Cleveland Cliffs) Agreement Act 1964, Special Lease for Mining Operations, Document I 123396 L, Lot 65 on Deposited Plan 241547.

Local Government Area: Roebourne

Colloquial name: Cape Lambert to Emu Siding

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.5		Mechanical Removal	Trenching Works for the Installation of Fibre Optic Cable

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
Beard Vegetation Associations have been mapped at a 1:250,000 scale for the whole of Western Australia. One Beard Vegetation Association is located within the application area (GIS Database): 157: Hummock grasslands, grass steppe; hard spinifex *Triodia wiseana* (Shepherd, 2007). An extensive flora and vegetation survey was undertaken over the application area by Biota Environmental Sciences in 2008, with additional surveys undertaken in November 2009 and January 2010 (Biota, 2010). The following vegetation communities were recorded within the application area (Biota, 2010): **Vegetation of Rocky Hills, Foothills, and Stony Plains** **ApyAbTwTeTHt:** *Acacia pyrifolia*, *A. bivenosa* scattered shrubs over *Triodia wiseana*, *T. epactia* hummock grassland and *Themeda triandra* very open tussock grassland; **Vegetation of Moderate and Minor Flowlines and Drainage Areas** **AVmTYd:** *Avicennia marina* scattered low trees over *Typha domingensis* sedgeland; **Disturbed Vegetation**.	Robe River Pty Ltd has applied to clear up to 0.5 hectares of native vegetation within an area of approximately 4.6 hectares (GIS Database; Biota, 2010). The application area is located approximately 3.5 kilometres north-east of Point Samson (GIS Database). The proposed clearing is for the purpose of trench works for the installation of fibre optic cable (Biota, 2010). Clearing will be done using a dozer, blade down. Vegetation will be stockpiled and used in rehabilitation (Biota, 2010).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994). To Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).	Vegetation descriptions were derived from descriptions by Biota Environmental Sciences (Biota, 2010).

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). The plains of the Chichester subregion primarily consist of a shrub steppe characterised by *Acacia inaequilatera* over *Triodia wiseana* hummock grasslands (CALM, 2002). The region is relatively high in biodiversity as it incorporates the Millstream-Chichester National Park. This park has numerous permanent waterholes which support a variety of species, including up to 108 bird species, nine fish species and 29 species of dragon and damsel flies (DEWHA, 2008).

A number of areas within and adjacent to the application area have been previously cleared of native vegetation or are in such a disturbed condition that only introduced flora species are present (Biota, 2008). Aerial photos of the site support this, as they show areas that have been cleared and disturbed within the application area (GIS Database).

An extensive flora and vegetation assessment of the Cape Lambert area was conducted by Biota in 2008 (Biota, 2010). The flora assessment identified a total of 190 taxa of native vascular flora from 101 genera belonging to 45 families within the wider Cape Lambert survey area (Biota, 2008). The number of native flora species recorded was within the expected range for a study area of this size in the locality, and was not considered to represent a high diversity or species richness (Biota, 2010). No Declared Rare Flora or Priority Flora was recorded during the survey (Biota, 2010).

A fauna survey was conducted over the application area by Biota Environmental Sciences in two phases (Biota, 2008b). The first phase was conducted in October 2007 with the second phase occurring in March 2008 (Biota, 2008b). No habitats were recorded that are considered to be restricted to the application area or of a significant habitat type (Biota, 2010).

Given the largely degraded state of the application area, it is not likely to contain a higher level of floral or faunal diversity than similar less disturbed areas within the local or regional area.

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

Methodology

Biota (2008)
Biota (2008b)
Biota (2010)
CALM (2002)
DEWHA (2008)
GIS Database:
-Cape Lambert 20cm Orthomosaic
-IBRA WA (Regions - Sub Regions)

(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

One broad habitat type has been identified within the application area; Marine Couch (*Sporobolus virginicus*) tussock grassland on saline clay plains (Biota, 2008b). Whilst there is the potential for fauna of conservation significance to occur within the application area, the majority has been previously disturbed and is near existing infrastructure so it is not likely to be critical for the continued existence of native fauna.

This fauna habitat is not restricted, and it is likely that higher quality habitat would exist throughout the surrounding area and Pilbara bioregion.

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

Methodology

Biota (2008b)

(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 GIS databases there are no known records of Declared Rare Flora (DRF) or Priority Flora within the application area (GIS Database). There are no known DRF within a 50 kilometre radius of the application area, with the nearest record of priority flora being a population of *Acacia glaucocaesia* (P3) located approximately 19.4 kilometres south-west of the application area (GIS Database).

A flora survey was conducted over the application area and surrounding vegetation by Biota Environmental Sciences in 2008, with additional surveys undertaken in November 2009 and January 2010 (Biota, 2010). No

DRF or Priority Flora were recorded during the vegetation survey (Biota, 2010).

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

Methodology Biota (2010)
GIS Database:
-Declared Rare 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**
According to available databases, there are no Threatened Ecological Communities (TEC's) within the application area (GIS Database). The vegetation survey did not identify any vegetation communities described as a TEC (Biota, 2010).

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

Methodology Biota (2010)
GIS Database:
-Threatened Ecological Communities

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

Comments **Proposal is not at variance to this Principle**
The application area falls within the Pilbara Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 99.9% of the Pre-European vegetation remains (see table) (GIS Database, Shepherd, 2007).

The vegetation of the application area has been mapped as the following Beard vegetation association (GIS Database):

157: Hummock grasslands, grass steppe; hard spinifex *Triodia wiseana*.

According to Shepherd (2007) over 99% of this Beard vegetation association remains at both a state and bioregional level. Therefore the area proposed to be cleared does not represent a significant remnant of native vegetation within 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	17,804,187	17,794,646	~99.9	Least Concern	~6.3
Beard veg assoc. – State					
157	502,729	501,514	~99.8	Least Concern	~17.9
Beard veg assoc. – Bioregion					
157	198,633	198,518	~99.9	Least Concern	~5.7

* Shepherd (2007)
** Department of Natural Resources and Environment (2002)

Options to select from: Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment 2002)

Presumed extinct	Probably no longer present in the bioregion
Endangered	<10% of pre-European extent remains
Vulnerable	10-30% of pre-European extent exists
Depleted	>30% and up to 50% of pre-European extent exists
Least concern	>50% pre-European extent exists and subject to little or no degradation over a majority of this area

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

Methodology Department of Natural Resources and Environment (2002)
Shepherd (2007)
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 permanent wetlands or watercourses within the application area (GIS Database). The north-east corner of the application area is located within an area that has the potential to become inundated, although this is a very small proportion of the application area (GIS Database).

Whilst the vegetation within the application area may be found in a seasonally inundated area, the majority of the application area is highly degraded (GIS Database; Biota, 2010). Given this and the fact the vegetation present within the application area is common and widespread throughout the Cape Lambert area, the proposed clearing is not expected to have a significant impact on vegetation associated with a watercourse or wetland.

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

Methodology

Biota (2010)
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 may be at variance to this Principle

The application area has been surveyed by the Department of Agriculture and Food (DAFWA) (Van Vreeswyk et al., 2004). The application area is composed of the following land systems (GIS Database):

- Littoral Land System
- Ruth Land System.

The Littoral Land System is described as bare coastal mudflats with mangroves on seaward fringes, samphire flats, sandy islands, coastal dunes and beaches (Van Vreeswyk et al., 2004). An analysis of aerial photography for the application area reveals it is most likely to fall within the 'coastal dunes' and 'samphire flats' land units. The coastal dunes of this land system are highly susceptible to wind erosion if vegetative cover is lost (Van Vreeswyk et al., 2004). The vegetation described by Van Vreeswyk et al. (2004) accurately reflects the vegetation types described in vegetation surveys conducted by Biota Environmental Sciences (Biota, 2010).

The Ruth Land System is described as hills and ridges of volcanic and other rocks supporting hard spinifex (and occasionally soft spinifex) grasslands (Van Vreeswyk et al., 2004). An analysis of aerial photography for the application area reveals the proposed clearing is most likely to fall within the 'sandplains' and 'lower slopes and stony plains' land units. This land system is not susceptible to erosion (Van Vreeswyk et al., 2004). The vegetation described by Van Vreeswyk et al. (2004) accurately reflects the vegetation types described in vegetation surveys conducted over the area (Biota, 2010).

Based on the above, the proposed clearing may be at variance to this Principle. The potential degradation involved with the clearing process may be minimised by the implementation of a rehabilitation condition.

Methodology

Biota (2010)
Van Vreeswyk et al. (2004)
GIS Database:
-Cape Lambert 20cm Orthomosaic
-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

According to available databases, the application area is not located within a conservation area or any DEC managed lands (GIS Database). The nearest conservation reserve is an un-named nature reserve located approximately 18.5 kilometres north-west of the application area (GIS Database). Given this is an offshore nature reserve, the project is not likely to impact the environmental values of any conservation area.

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

Methodology

GIS Database:
-DEC Managed Land

(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). There are no permanent watercourses within the application area, however water is often present following seasonal rain events or substantial localised falls (Biota, 2010).

The groundwater salinity within the application area is between 1,000 ? 3,000 milligrams per litre of Total Dissolved Solids (TDS) (GIS Database). This is considered to be brackish. The clearing of 0.5 hectares of vegetation within a predominantly disturbed landscape is not likely to have a significant impact on the quality of ground or surface water within the application area.

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

Methodology

Biota (2010)
GIS Database:
-Groundwater Salinity, Statewide
-Hydrogrophy, Linear
-Public Drinking Water Source area

(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 experiences a semi-desert tropical climate with an average annual rainfall of 295 millimetres (BoM, 2010) recorded from the nearest weather station at Point Samson, approximately 3.5 kilometres south-east of the application area (GIS Database).

Local flooding occurs seasonally within the Pilbara region as a result of cyclonic activity and sporadic thunderstorm events (Biota, 2010). The small size of the application area (0.5 hectares) is unlikely to significantly alter the intensity of flooding within the application area and surrounding areas.

The application area is located within the Coastal catchment area (GIS Database). However, the small area to be cleared in relation to the size of the Coastal catchment area (744,301 hectares) is not likely to increase the potential for flooding within the application area, local area or within the catchment (GIS Database).

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

Methodology

BoM (2010)
Biota (2010)
GIS Database
- Hydrographic Catchments - Catchments

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

Comments

The application area is located within a *Rights in Water Irrigation Act 1914* (RIWI Act) Surface Water Management Area (GIS Database). The proponent is required to obtain a Permit in order to take or divert surface water within this area. The application area is located within a RIWI Act Groundwater area. The proponent is required to obtain permits to abstract groundwater in this area.

There is one Native Title Claim (WC99_014) over the area under application. This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the tenements have 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 site of significance within the application area and several within close proximity (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 2 August 2010 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received during the public comment period.

Methodology GIS Database:
-Aboriginal Sites of Significance
-Native Title Claims

4. Assessor's comments

Comment

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 (e), is not likely to be at variance to Principles (a), (b), (c), (d), (f), (h), (i), and (j), and may be at variance to Principle (g).

5. References

Biota (2008) Cape Lambert Port B Development: Flora and Vegetation survey. Unpublished report for Pilbara Iron Pty Ltd by Biota Environmental Sciences.

Biota (2008b) Cape Lambert Port B Development Seasonal Fauna Survey. Unpublished report for Pilbara Iron Pty Ltd by Biota Environmental Sciences.

Biota (2010) Cape Lambert to Emu Siding Additional Vegetation Mapping. Unpublished report for Robe River Pty Ltd by Biota Environmental Sciences.

BoM (2010) Bureau of Meteorology. Climate statistics for Australian Locations - Roebourne. Available online from: http://www.bom.gov.au/climate/averages/tables/cw_004035.shtml Last accessed 3 September 2010.

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 1 (PIL1 - Chichester subregion) 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.

DEWHA (2008) Chichester Range National Park (1977 boundary), Roebourne - Wittenoom Rd, Millstream, WA, Australia. http://www.environment.gov.au/cgi-bin/ahdb/search.pl. Last accessed 8 September 2010.

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) Supporting information for clearing permit application CPS 3856/1.

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.

6. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEC	Department of Environment and Conservation
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DoE), 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, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
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	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	Threatened Ecological Communities.

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.