Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4737/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: BHP Billiton Iron Ore Pty Ltd

1.3. Property details

Property: *Iron Ore (Mount Newman) Agreement Act 1964,* Mineral Lease 244SA (AML 70/244)
Local Government Authority: Shire of East Pilbara
Colloquial name: Newman Substation South and Associated Powerlines

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
20		Mechanical Removal	Substation, powerlines, access track and associated infrastructure

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 2 February 2012

2. Background

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 for the whole of Western Australia. One Beard vegetation association has been mapped within the application area (GIS Database). **82:** Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana.* Two separate flora and fauna surveys have been undertaken over the application area by ENV Australia (2011) and Eco Logical Australia (2011). ENV Australia (2011) recorded four vegetation associations within the application area: ***1.*** Hummock grassland of *Triodia wiseana* and *T. brizoides* with low open woodland of *Eucalyptus leucophloia* subsp. *leucophloia* with high open shrubland of *Acacia aneura* var. *microcarpa* and *Acacia pruinocarpa*; ***2.*** Hummock Grassland of *Triodia wiseana, T. basedowii* and *T. pungens* with Open Shrubland of *Acacia bivenosa, Petalostylis labicheoides* and *Senna glutinosa x luerssenii* with Scattered Low Trees of *Eucalyptus leucophloia* subsp. *Leucophloia*; ***3.*** Hummock Grassland of *Triodia brizoides* and *T. basedowii* with Open Shrubland of *Acacia bivenosa, A. trudgeniana* and *A. victoriae* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Acacia pruinocarpa;* and ***4.*** Low Open Forest of *Acacia aneura, A. pruinocarpa* and *Eucalyptus xerothermica* with Open Hummock Grassland of *Triodia epactia* with Open Shrubland of *Acacia acradenia, A. Bivenosa* and *Rhagodia eremaea.*	BHP Billiton Iron Ore Pty Ltd has applied to clear up to 20 hectares, within a total application area of approximately 124 hectares. Clearing will be undertaken for the purposes of upgrading power supply infrastructure servicing the town of Newman. This will include construction of a substation, powerlines, access tracks and associated infrastructure (BHP Billiton, 2011).	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994); To Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).	The vegetation condition was assessed by botanists from ENV Australia (2011) and Eco Logical Australia (2011).

GIS Database:
- IBRA WA (regions - subregions)
- 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

The vegetation within the application area consists of Beard vegetation association 82, which is common and widespread throughout the Pilbara bioregion with approximately 100% of the pre-European vegetation extent remaining (Shepherd, 2009; GIS Database). The native vegetation to be cleared is in completely degraded to excellent condition (Keighery, 1994).

Two fauna surveys have been undertaken by ENV Australia (2011) and Eco Logical Australia (2011) which include the application area. These surveys identified 8 broad fauna habitat types:

Env Australia (2011):
1. Alluvial Plain;
2. Breakaway;
3. Low Hill;
4. Hill Slope; and
5. Cleared/Developed.

Eco Logical Australia (2011):
1. Open mixed Acacia woodland over mixed low shrubs and Triodia hummock grasses on red loamy clay;
2. Open mixed Eucalyptus and Acacia woodland over mixed low shrubs and Triodia hummock grasses on red loamy clay; and
3. Stony and rocky hill slopes and rises with poorly formed shallow clay soils supporting mixed open shrublands with Triodia and occasional Eucalyptus trees;

A desk top review of previous fauna surveys and the Department of Environment and Conservations and the Department of the Sustainability, Environment, Water, Population and Communities databases identified a total of 18 species of conservation significant fauna which may potentially utilise the application area. However, no species of conservation significance were recorded during a survey of the application area by ENV Australia (2011).

A survey conducted by Eco Logical Australia (2011) identified three conservation significant fauna species which have potential to utilise the application area. One of these, the Rainbow Bee-eater (Merops ornatus), was observed within the application area (Eco Logical Australia, 2011). The Rainbow Bee-eater is a migratory species which is widely distributed throughout Australia.

The application area is located within 500 metres of the Newman town site and is in close proximity to existing mining infrastructure. The habitat types of the application area are common and widespread and are unlikely to represent a significant habitat for fauna.

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

Methodology

BHP Billiton Iron Ore Pty Ltd (2011)
Ecological Australia (2011)
ENV Australia (2011)
Shepherd (2009)
Keighery (1994)
GIS Database:
- IBRA WA (regions - subregions)
- Pre-European Vegetation

(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 records of Declared Rare Flora (DRF) within the application area (GIS Database).

Flora and vegetation surveys of the application area, conducted by ENV Australia (2011) and Eco Logical Australia (2011), did not identify any DRF within the application area.

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

ephemeral drainage lines (GIS Database, BHP Billiton Iron Ore Pty Ltd, 2011). Flora and vegetation surveys of the application area, conducted by ENV Australia (2011) and Eco Logical Australia (2011), did not identify any vegetation growing in association with a watercourse or wetland.

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

Methodology BHP Billiton Iron Ore Pty Ltd (2011)
Eco Logical Australia (2011)
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**
The application area comprises of the Newman, Rocklea and River land systems (GIS Database).

The Newman land system is comprised of rugged jaspilite, ridges and mountains supporting hard spinifex grasslands. It is generally not susceptible to soil erosion (Van Vreeswyk et al., 2004). The Rocklea land system is comprised of Basalt hills, plateaux, lower slopes and minor stony plains supporting hard spinifex (and occasionally soft spinifex) grasslands. This system has a very low erosion hazard (Van Vreeswyk et al., 2004).

A small section of the application area (3%) lies within the River land system which comprises of flood plains and river terraces subject to fairly regular overbank flooding from major channels and watercourses, sandy banks and poorly defined levees and cobble plains. The risk of erosion is high to very high in this land system if vegetative cover is removed (Van Vreeswyk et al., 2004), however, this area is already highly modified and associated with existing mining infrastructure and the proposed clearing is unlikely to cause any 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 application area is not located within any conservation areas (GIS Database). The nearest conservation areas are the Collier Range National Park and Karijini National Park, located more than 100 kilometres from the application area (GIS Database).

Given the distance to these conservation areas, the proposed clearing is not likely to have any negative impacts on the environmental values of these areas.

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

Methodology GIS Database:
- DEC Tenure

(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 proposed clearing area is located entirely within the Newman Water Reserve, a Public Drinking Water Source Area (PDWSA) gazetted under the *Country Areas Water Supply Act 1947* on 21 August 1983. This PDWSA is defined a 'Priority 1 (P1)' under the Water Source Protection Classification System (GIS Database).

However, there are no permanent watercourses mapped within the area under application (GIS Database, BHP Billiton Iron Ore Pty Ltd, 2011). The application area is located adjacent to the Newman townsite and existing mining infrastructure. In addition any surface water within the application area is only likely to remain for short periods following significant rainfall events as the annual evaporation rate greatly exceeds rainfall (GIS Database). The proposed clearing to upgrade power supply infrastructure is not likely to cause a 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 BHP Billiton Iron Ore Pty Ltd (2011)

Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.
Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A & Hennig, P. (2004) An Inventory and Condition Survey of the Pilbara Region, Western Australia, Department of Agriculture, Western Australia.

5. 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.
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.