

Clearing Permit Decision Report

Application details

Permit application details

Permit application No.:

Permit type:

Purpose Permit

Proponent details

Proponent's name:

BHP Billiton from Ore Pty Ltd

Property details

Property:

AML70/244

Local Government Area:

Shire Of East Pilbara

Colloquial name:

Orebody 23

Application

Clearing Area (ha)

No. Trees

Method of Clearing Mechanical Removal For the purpose of: Mineral Production

72

Site Information

Existing environment and information

2.1.1. Description of the native vegetation under application

Clearing Description

Vegetation Description

Beard Vegetation

Association 18: Low

approximately 99.9%

Beard Vegetation

woodland; mulga,

2001).

2001).

al., 2001).

remaining and 2.3% in

reserves (Shepherd et al.,

Association 29: Sparse low

discontinuous in scattered

Association 82: Hummock

steppe; snappy gum over

Triodia wiseana, of which

100% remaining and 9.1% in reserves (Shepherd et

there is approximately

groups, of which there is

approximately 100%

Beard Vegetation

grasslands, low-tree

remaining and 0.3% in reserves (Shepherd et al.,

woodland, mulga (Acacia

A total area of approximately 7.2ha in a corridor up to approximately 20m wide is to be cleared by grader. Vegetation and topsoil will be stockpiled for later use aneura), of which there is in revegetation.

> Three vegetation complexes were identified in the application area by Ecologia, 2005.

Vegetation Complex 1 occurred on low-lying drainage flats of calcareous sandy loam soils. It comprised Open Low Woodland A, Corymbia hamersleyana; over Low Scrub A, Acadia bivenosa and Petalostylls labicheoides; over Open Dwarf Scrub C, Senna artemisioides subsp. oligophylla and Ptliotus obovatus; over Hummock Grass, Triodia pungens (Ecologia 2005).

Vegetation Complex 2 occurred on slightly raised ground, and was similar to Complex 1, with the most notable change being an increased coverage of Triodia pungens. It comprised Open Low Woodland A, Corymbia hamersteyana; over Open Scrub, Codonocarpus cotinifolius; over Low Scrub A. Acacia bivenosa, Petalostylis labicheoides and Senna artemisioides subsp. oligophylla; over a mid-dense coverage of Triodia pungens (Ecologia, 2005).

Vegetation Complex 3 was described as a typical mulga shrubland association, which showed signs of previous disturbance and was severely degraded in some areas. It comprised Open Low Woodland A, Corymbia hamersleyana; over Open Scrub, Acacia aneura; over Open Dwarf Scrub C, Eremophila forrestii; over Open Hummock Grass, Triodia pungens (Ecologia, 2005).

Vegetation Condition

Very Good: Vegetation structure affered: obvious signs of disturbance (Keighery 1994)

Comment

The proposed clearing area is for the construction of powerline infrastructure, a dewatering pipeline corridor and a transfer pump station associated with the dewatering operations at the existing Orebody 23 minesite (BHP, 2005).

The proposed powerline/pipeline corridor is located to the south/south-west of the Orebody 23 minesite and east/southeast of the Orebody 25 minesite.

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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 vegetation types in the application area are well represented in the Pilbara Region (BHP, 2005; GIS Database), and the areas proposed to clear are unlikely to be of higher biodiversity than surrounding areas.

The proposal to clear native vegetation for the purposes of installing a powerline and pipeline corridor can be considered to have minimal environmental impact considering the restricted nature and limited extent of the clearing proposed (CALM, 2005). The vegetation proposed to be cleared is widespread in a regional context and is not considered environmentally significant (CALM, 2005). No flora or fauna of conservation significance is expected to be impacted as a consequence of the proposed clearing (CALM, 2005).

Methodology BHP Billiton (2005); CALM Advice (2005); GIS Database - Pre-European Vegetation - DA 01/01

(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 proposed clearing is for a powerline and pipeline corridor running between the existing Orebody 23 and Orebody 25 minesites. Ecologia conducted fauna surveys of the Orebody 23 and Orebody 25 minesites in 1997 and 1995, respectively. The Orebody 23 survey recorded three fauna species of conservation significance: the Western Pebble-mound Mouse, *Pseudomys chapmani* (P4); Peregrine Falcon, *Falco peregrinus*; and the Desert Mouse, *Pseudomys desertor*. These species were also expected to occur in the Orebody 25 area, although no fauna species of conservation significance were found during that survey.

The most suitable habitat for the Desert Mouse is considered to be the area immediately adjacent to Homestead Creek (Ecologia, 1995, as cited by BHP, 2005). However the 8m wide corridor of proposed clearing crossing Homestead Creek is unlikely to have any significant impact on the habitat of this species, which has a wide distribution throughout the arid regions of Western Australia. The Western Pebble-mound Mouse is relatively widespread in the Pilbara and is well represented in areas outside the minesites (Ecologia, 1998). The Peregrine Falcon is a highly mobile and wide-ranging species (Ecologia, 1998), and is unlikely to be affected by the proposed clearing.

CALM considers that the proposed clearing will have minimal environmental impact, and advises that no fauna of conservation significance is expected to be impacted as a consequence of the clearing (CALM, 2005).

Methodology

BHP Billiton (2005); CALM Advice (2005); Ecologia (1998).

(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

CALM databases have no records of any populations of Declared Rare or Priority flora within a 10km radius of the areas applied to clear (GIS Database). The nearest known Declared Rare Flora is 6 populations of Lepidium catapycnon which occur fairly close together approximately 17-20km west/southwest of the western end of the application area (GIS Database).

Ecologia conducted a flora survey over the application area and surrounding areas in July 2005. An 80m wide corridor was surveyed, along the proposed 20m wide powerline/pipeline route, and no Rare or Priority Flora were found (Ecologia, 2005).

The flora survey identified three vegetation complexes within the application area: Vegetation Complex 1: Open Corymbia hamersleyana, over Acacia bivenosa and Petalostylis labicheoides, over Senna artemisioides subsp. oligophylla and Ptilotus obovatus over Triodia pungens (Ecologia, 2005).

Vegetation Complex 2: Open Corymbia hamersleyana, over Codonocarpus cotinifolius, over Acacia bivenosa, Petalostylis labichecides and Senna artemisioides subsp. oligophylla, over a mid-dense coverage of Triodia pungens (Ecologia, 2005).

Vegetation Complex 3: Mulga scrubland: Corymbia hamersleyana, over Acacia aneura, over Eremophila forrestii, over open Triodia pungens (Ecologia, 2005). Vegetation Complex 3 shows signs of previous disturbance and is severely degraded in some areas (Ecologia, 2005).

The vegetation types in the application area are well represented in the surrounding region (8HP, 2005; CALM, 2005; GIS Database).

CALM (2005) has determined that no flora of conservation significance is expected to be impacted as a consequence of the proposed clearing.

BHP Billiton (2005); CALM Advice (2005); Ecologia (2005); GIS Database - Declared Rare and Priority Flora Methodology List - CALM 01/07/05; GIS Database - Pre-European Vegetation - DA 01/01.

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments

Proposal is not likely to be at variance to this Principle

There are no known Threatened Ecological Communities (TEC's) within the area applied to clear. The nearest known TEC is the Ethel Gorge aquifer stygobiont community which is located approximately 300m northeast of the northern end of the application area (GIS Database). Groundwater drawdown is listed as a threatening process for the Ethel Gorge stygofauna (CALM, 2002), however the proposed clearing is not expected to have any effect on groundwater levels.

CALM (2002); GIS Database - Threatened Ecological Communities - CALM 12/04/05. Methodology

(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 Shire of East Pilbara and is on the boundary of the Gascoyne and Pilbara IBRA Bioregions. Shepherd et al. (2001) report that approximately 100% of the pre-European vegetation still exists in the Gascoyne and Pilhara IBRA Bioregions, although no specific information is available for the Shire of East Pilbara. The vegetation in the application area is recorded as Beard Vegetation Association 18: Low woodland; mulga (Acacia aneura), Beard Vegetation Association 29: Sparse low woodland; mulga, discontinuous in scattered groups; and Beard Vegetation Association 82: Hummock grasslands, low tree steppe; snappy gum over Triodia wiseana (GIS Database). According to Shepherd et al., (2001) there is approximately 99.9 - 100% of these vegetation types remaining, and 2.3%, 0.3% and 9.1% respectively, in reserves. The area proposed to clear does not represent a significant remnant of native vegetation.

	Pre-European area (ha)	Current extent (ha)	Remaining %*	Conservation Status**	% in reserves/CALM- managed land
IBRA Bioregion - Gascoyne	18,169,908*	18,169,908*	100%	Least concern	
IBRA Bioregion - Pilbara Shire of East Pilbara	17,944,694*	17,944,694*	100%	Least concern	
	No information	available			
Beard vegetation associations					
- 18	24,675,970	24,659,110	~99.9%	Least concern	2.3%
- 29	7,782,264	7,782,264	~100%	Least concern	0.3%
- 82	2,920,910	2,920,910	~100%	Least concern	9.1%
* Shepherd et al. (2001)					

Methodology

Dept of Natural Resources and Environment (2002); GIS Database - Pre-European Vegetation - DA 01/01; Shepherd et al. (2001).

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

The proposed pipeline corridor crosses Homestead Creek which is dry for most of the year, only flowing briefly immediately following significant rainfall (BHP, 2005, GIS Database).

The Department of Environment (DoE) has considered the proposal and has granted BHP Billiton a permit to modify the bed and banks of Homestead Creek (DoE, 2005). The DoE considered the impact of clearing riparian vegetation as part of its assessment. DoE noted that no DRF or Priority Flora species were present within the project area (as surveyed by Ecologia in 2005) and that the previously reported Priority 2 species Scaevola acacioides is no longer listed as Priority Flora. A condition of the bed and banks permit requires that the permit holder shall undertake the pipeline works with minimal disturbance to riparian vegetation (DoE, 2005).

The proposed clearing for a powerline and pipeline corridor is unlikely to have any significant impact on Homestead Creek or any other watercourse.

Methodology

DoE Advice (2005); Ecologia (2005); GIS Database - Hydrography, Linear - DOE 01/02/04; GIS Database -Lakes, 1M - GA 01/06/00; GIS Database - Rivers 250K - GA.

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

(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

There are no recorded acid sulphate soils in the area and the clearing is unlikely to result in an increased risk of salinity (GIS Database). The soils within the Orebody 23 and 25 Mine areas are mainly stony, shallow loams and the proposed clearing areas are on relatively flat terrain (Ecologia, 2005; GIS Database). Erosion and sediment control measures will be implemented as required (BHP, 2005).

The proposed clearing is unlikely to cause appreciable land degradation.

Methodology

Ecologia (2005); GIS Database - Acid Sulphate soil risk map, SCP - DOE 4/1/04; GIS Database - Salinity Risk LM 25m - DOLA 00; GIS Database - Topographic Contours, Statewide - DOLA 12/9/02.

(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 at variance to this Principle

There are no conservation areas in the vicinity of the application area. The nearest CALM managed lands are the Collier National Park, approximately 120km south/southwest of the application area; and the Karijini National Park, approximately 125km west/northwest of the application area (GIS Database).

Methodology GIS Database - CALM Managed Lands and Waters - CALM 1/07/05.

(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 application area is located within the Newman Water Reserve, a Public Drinking Water Source Area (GIS Database). Groundwater quality monitoring is conducted as part of the existing mine operations (BHP, 2005). The comparatively small area of additional clearing is unlikely to have any significant impact on surface or underground water quality.

CALM is confident that the potential impacts of clearing can be adequately managed under the existing environmental management procedures implemented by the proponent (CALM, 2005).

Methodology

BHP Billiton (2005); CALM Advice (2005); GIS Database - Hydrography, Linear - DOE 1/02/04; GIS Database - Public Drinking Water Source Areas - DOE 09/08/05.

(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

Natural flooding occurs occasionally during the wet season (November to March) following significant rainfall (BHP, 2005). The proposed 8m wide corridor to be cleared across Homestead Creek is not likely to cause or exacerbate the incidence or intensity of flooding.

Methodology BHP (2005).

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

Comments

There is a native title claim (WC99/004) over the area under application (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the Nyiyaparli claimant group. However, the mining tenement has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (le. 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 Aboriginal sites of significance within the areas applied to clear, however there are several sites located within close proximity of the application areas (GIS Database). The nearest of these are the Trugellendon Pool site (ID 9554), approximately 250m east of the northern application area; and the Shovelanna Hill 19 site (ID 9193), approximately 400m northeast from the northern end of the southern application area. It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no sites of Aboriginal significance are damaged through the clearing process.

BHP Billiton Iron Ore's Orebody 23 minesite located on AML70/244 has a current operating licence 6942/9 granted in accordance with the *Environmental Protection Act 1986*. The licence has been recently amended to include the proposed dewatering discharge. The proposed clearing is not at variance to this licence, and no further amendment to the licence will be required for the proposed powerline and pipeline corridor (DoE, 2005).

BHP Billiton Iron Ore's Orebody 23 minesite has a current groundwater licence GWL74556(4) for the purpose of

dewatering, dust suppression, and ore processing, granted in accordance with the Rights in Water and Irrigation Act 1914 (DoE, 2005).

The Department of Environment recently granted BHP Billiton Iron Ore a permit (PMB158245(1)) to modify bed and banks, in relation to the dewater discharge pipeline at locations that cross Homestead Creek. The pipeline which relates to the clearing permit is required to facilitate the dewatering operations at Orebody 23 mine and to transport the extracted water to the Orebody 25 and Mt Whaleback Operations. Water surplus to requirements will be discharged to the environment, some to irrigate riverine vegetation and some to maintain groundwater throughflow in the Fortescue River (DoE, 2005).

The Orebody 23 dewatering infrastructure proposal including the pipeline and above ground powerline between Orebody 23 and Orebody 25 (CER 1997), was assessed by the EPA (Bulletin 888, April 1998) and subsequently granted ministerial approval subject to conditions (DoE, 2005).

Methodology

DoE Advice (2005); GIS Database - Aboriginal Sites of Significance - DIA 04/07/02; GIS Database - Native Title Claims - DLI 19/12/04.

Assessor's recommendations

Decision Comment / recommendation Method Applied Purpose area (ha)/ trees Recommend that the application be grented as it is not at variance to any of the Grant Mechanical 7.2 Mineral Clearing Principles. Removal Production

References

BHP Billiton (2005) Application to clear native vegetation for the purpose of installing power line and pipeline infrastructure for dewatering at Orebody 23/25 operations - Orebody 23. BHP Billiton from Ore Pty Ltd, Western Australia. CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation

and Land Management, Western Australia.

CALM (2005) Land clearing proposal advice. Advice to Program Manager, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR). 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.

DoE (2005) Water Allocation/Licence Advice. Department of Environment, Western Australia.

Ecologia (1998) Orebody 23 Extension Biological Assessment Survey. Report to BHP Billiton Iron Ore Pty Ltd. Ecologia Environmental Consultants, Western Australia.

Ecologia Environment (2005) DRF and Priority Flora surveys of Jimblebar W1 and W2, OB18 communications access track, and OB25 proposed powerline / pipeline corridor. Report to BHP Billiton Iron Ore Pty Ltd. Ecologia Environmental Consultants, Western Australia.

Keighery, BJ (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

Glossary

Acronyms:

Bureau of Meteorology, Australian Government. BoM

Department of Conservation and Land Management, Western Australia. CALM

Department of Agriculture, Western Australia. DAWA Department of Agriculture, Western Australia. DA

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

Department of Environment Protection (now DoE), Western Australia. DEP

Department of Indigenous Affairs DIA

Department of Land Information, Western Australia. DLI Department of Environment, Western Australia. DoE

Department of Industry and Resources, Western Australia. DoIR Department of Land Administration, Western Australia. DOLA Environment Protection Act 1986, Western Australia. **EP Act**

Environment Protection and Biodiversity Act 1999 (Federal Act) **EPBC Act**

Geographical Information System. GIS

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.

TEC's

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):-

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.

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

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

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.

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.

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 — 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 or special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

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

Priority One: Taxa with few, poorly known populations on threatened lands: Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

Priority Two: Taxa with few, poorly known populations on conservation lands: Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

Priority Three: Taxa with several, poorly known populations, some on conservation lands: Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

Priority Four: Taxa in need of monitoring: Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.

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.

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

Extinct: A native species for which there is no reasonable doubt that the last member of the species has EX

Extinct in the wild: A native species which: EX(W)

- (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.
- Critically Endangered: A native species which is facing an extremely high risk of extinction in the wild in CR the immediate future, as determined in accordance with the prescribed criteria.
- Endangered: A native species which: EN
 - (a) is not critically endangered; and
 - is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the (b) prescribed criteria.
- Vulnerable: A native species which: VŲ
 - (a) is not critically endangered or endangered; and
 - is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with (b) the prescribed criteria.
- Conservation Dependent: A native species which is the focus of a specific conservation program, the CD cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.

