Government of **Western Australia**
Department of **Mines and Petroleum**

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2550/3
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **BHP Billiton Iron Ore Pty Ltd**

1.3. Property details

Property: *Iron Ore (Mt Newman) Agreement Act 1964,* Special Lease 3116/3687, Document No I 154279 L
Local Government Area: Shire of East Pilbara
Colloquial name: Jimblebar Junction to Newman Hub Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
98		Mechanical Removal	Construction and maintenance of railway, water pipelines, powerlines and associated works.

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 20 September 2012

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

Beard vegetation associations have been mapped for the whole of Western Australia. Three Beard vegetation associations have been mapped within the application area (GIS Database):

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*.

Ecologia Environment Pty Ltd (2008) conducted a level 1 flora and vegetation survey of the proposed clearing area between 18 and 19 October 2007 in order to describe finer scale vegetation types within the proposed rail duplication area than those described by Beard vegetation mapping. The flora and vegetation survey consisted of 12 quadrats, each 50 metres x 50 metres (the standard size for surveys carried out in the Pilbara). In addition, 12 transects were walked through different vegetation types along the length of the proposed rail duplication to ensure that a representative species list was produced for the survey area.

The following six vegetation units (associated with three distinct landforms) were described from the proposed clearing area:

Landform 1 - Rocky hillslope

Vegetation unit 1a - Sparse *Eucalyptus leucophloia* subsp. *leucophloia* low trees over sparse mixed low shrubs dominated by *Eremophila fraseri* over open mixed *Triodia wiseana* and *Triodia pungens* hummock grasses (transect 4);

Vegetation unit 1b - Open *Eucalyptus leucophloia* subsp. *leucophloia* low trees, over isolated *Eucalyptus gamophylla* mallee trees, over open to moderately dense *Acacia bivenosa* tall to medium shrubs, over moderately dense *Petalostylis labicheoides* medium shrubs, over open *Ptilotus obovatus* and *Tribulus suberosus* low shrubs, over open mixed tussock grasses with moderately dense mixed *Triodia* sp. Shovelanna Hill and *Triodia pungens* hummock grasses (quadrat 5);

Landform 2 - Drainage channels/ Creek line

Vegetation unit 2 - Open *Eucalyptus* spp. medium trees over mixed shrubs and tussock grasses sometimes with sedges.

This vegetation unit was recorded at three separate locations along the length of the proposed rail duplication, with slightly different species composition at each location:

Open *Eucalyptus camaldulensis* var. *obtusa* medium to low trees over sparse *Petalostylis labicheoides* tall shrubs over moderately dense *Typha domingensis* sedges with open **Cenchrus ciliaris* tussock grass (quadrat 4);

Open *Eucalyptus victrix* medium to low trees, over open *Abutilon amplum* low shrubs, over sparse *Pterocaulon sphaeranthoides* very low shrubs, with moderately dense **Cenchrus ciliaris* tussock grass (quadrat 9); and

Open *Eucalyptus camaldulensis* var. *obtusa* medium to tall trees, over sparse *Acacia citrinoviridis* tall shrubs, over sparse *Acacia inaequilatera* low shrubs with open, mixed tussock and *Triodia pungens* hummock grasses (transect 10).

Landform 3 - Plain

Vegetation unit 3a - Moderately dense *Acacia citrinoviridis* woodland.

At a finer scale, Vegetation unit 3a consisted of:

Moderately dense *Acacia citrinoviridis*, sometimes with *Acacia aneura* var. *?aneura* medium trees, over scattered mixed *Corymbia aspera* and *Corymbia ?candida* subsp. *dipsodes* low trees, over scattered *Rhagodia eremaea* medium shrubs, over moderately dense **Cenchrus ciliaris* tussock grass (transect 3 and quadrat 6); and

Open *Eucalyptus camaldulensis* var. *obtusa* tall to medium trees, over moderately dense *Acacia citrinoviridis* tall shrubs, over sparse *Acacia inaequilatera* low shrubs, with open mixed tussock and *Triodia pungens* hummock grasses (transect 10).

Vegetation unit 3b - Sparse to open patches of *Acacia aneura* low trees over sparse mixed shrubs and open mixed hummock and tussock grasses.

Vegetation unit 3b can be described at a finer scale and consisted of:

Occasional isolated *Corymbia aspera* medium trees, over open *Acacia aneura* var. *?aneura* and sparse *Hakea lorea* subsp. *lorea* low trees, over sparse mixed *Acacia* spp. medium to tall shrubs (*Acacia aneura* var. *?aneura*, *Acacia* var. aff. *aneura* (narrow fine veined; site 1259, *Acacia pyrifolia*, *Acacia pachyacra*, *Acacia bivenosa*, *Acacia synchronicia* and *Acacia dictyophleba*), sometimes with sparse *Petalostylis labicheoides* tall shrubs sometimes over sparse mixed *Senna* spp. low shrubs, with open mixed **Cenchrus ciliaris* tussock and *Triodia pungens* hummock grasses (quadrats 2 and 8; transects 1, 7, 8 and 11);

Isolated *Corymbia* aff. *hamersleyana* medium trees over isolated *Corymbia aspera* low trees over open *Acacia* aff. *aneura* (narrow fine veined; site 1259) over *Acacia pyrifolia* tall shrubs over moderately dense *Enneapogon intermedius* tussock grasses and sparse *Triodia pungens* hummock grass (quadrat 10);

Moderately dense *Acacia* aff. *aneura* (narrow fine veined; site 1259), *Corymbia aspera*, *Corymbia hamersleyana* and *Hakea lorea* subsp. *lorea* medium to low trees over open *Acacia synchronicia* and *Rhagodia eremaea* tall shrubs or *Senna artemisioides* aff. subsp *oligophylla* (thinly sericeous) shrubs, over open *Themeda triandra* and **Cenchrus ciliaris* tussock grasses (transect 5); and

Scattered *Acacia* aff. *aneura* (narrow fine veined; site 1259) tall shrubs, over sparse *Acacia* aff. *aneura* (narrow fine veined; site 1259) medium shrubs, over sparse *Senna artemisioides* subsp. *oligophylla* x *helmsii* medium shrubs, over sparse *Sclerolaena cornishiana* low shrubs, with open mixed tussock and sparse to open *Triodia pungens* hummock grasses (transect 9).

Vegetation unit 3c - Scattered *Eucalyptus* and *Corymbia* spp. low trees, over open to moderately dense *Acacia* spp. medium to high shrubs.

At a finer scale, Vegetation unit 3c consisted of:

Isolated individual *Corymbia hamersleyana* medium trees, over open *Eucalyptus xerothermica* mallee trees, over open *Petalostylis labicheoides*, *Acacia synchronicia* and *Acacia sclerosperma* subsp. *sclerosperma* tall shrubs, over open *Senna artemisioides* subsp. *oligophylla* x *helmsii*, *Senna artemisioides* subsp. *artemisioides* and *Acacia sclerosperma* subsp. *sclerosperma* low shrubs, with sparse to open **Cenchrus ciliaris* tussock and *Triodia pungens* hummock grasses (quadrats 3, 7 and 12; transect 2);

Isolated *Corymbia aspera* / *Hakea lorea* subsp. *lorea* low trees, over sparse *Eucalyptus gamophylla* mallee trees, over sparse *Acacia synchronicia* tall shrubs, over isolated *Senna artemisioides* subsp. *oligophylla* x *helmsii* low shrubs, with open **Cenchrus ciliaris* tussock and sparse *Triodia pungens* hummock grasses (quadrat 11);

Sparse *Eucalyptus xerothermica* and *Hakea lorea* subsp. *lorea* low trees, over moderately dense *Acacia pachyacra*, *Acacia bivenosa* and *Petalostylis labicheoides* tall to medium shrubs, over moderately dense **Cenchrus ciliaris* tussock grass (transect 6);

Isolated *Acacia citrinoviridis* and *Eucalyptus leucophloia* subsp. *leucophloia* low trees over open to moderately dense (in patches) *Acacia bivenosa* and *Acacia synchronicia* tall to medium shrubs, over open **Cenchrus ciliaris* tussock and open *Triodia pungens* hummock grasses (quadrat 1);

Sparse *Corymbia aspera* medium trees, over moderately dense *Petalostylis labicheoides* tall shrubs, over sparse *Eucalyptus gamophylla* low mallee trees, over open mixed *Acacia* spp. medium shrubs, over moderately dense **Cenchrus ciliaris* tussock grass (transect 8); and

Scattered *Corymbia* aff. *hamersleyana* low trees, over *Acacia sclerosperma* subsp. *sclerosperma* and *Acacia inaequilatera* medium shrubs, over open to moderately dense **Cenchrus ciliaris* tussock grass (transect 10).

* = introduced flora species

Clearing Description

BHP Billiton Iron Ore Pty Ltd (BHP Billiton) have applied for a Purpose Permit to clear up to 98 hectares of native vegetation within a boundary of approximately 161 hectares to duplicate a 21 kilometre section of the Newman to Port Hedland railway line between Jimbleber Junction and Newman Hub and to install water pipelines and powerlines (BHP Billiton, 2008; BHP Billiton, 2012). The Jimblebar Junction to Newman Hub rail duplication is one stage in the proposed duplication of the entire Newman to Port Hedland railway line.

The rail duplication project will consist of construction of additional rail formation and rail line, duplication of bridges at Homestead Creek and Whaleback Creek, upgrades to signalling infrastructure, installation of power communications and cabling, establishment of access roads, installation of a weighbridge, monitoring equipment, borrow pits and laydown areas (BHP Billiton, 2008).

All of the proposed vegetation clearing is within the existing rail lease (Special Lease 3116/3687) which is approximately 80 metres wide. Vegetation clearing will be undertaken using mechanical means.

Vegetation Condition

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Comment

The vegetation condition rating is based on results from the flora and vegetation survey of the proposed clearing area which was conducted by Ecologia Environment Pty Ltd (2008a) between 18 and 19 October 2007.

Clearing permit CPS 2550/2 was granted by the Department of Mines and Petroleum on 6 August 2009 and was valid from 27 September 2008 to 1 September 2013. The permit authorised the clearing of 98 hectares of native vegetation within a 161 hectare boundary for the purpose of railway construction and maintenance and associated works. An application to amend the permit was received by the Department of Mines and Petroleum on 16 August 2012 requesting the purpose be changed to include the construction and maintenance of water pipelines and powerlines.

3. Assessment of application against clearing principles

Comments

BHP Billiton Iron Ore Pty Ltd has applied to amend clearing permit CPS 2550/2 to include the purpose of maintenance of water pipelines and powerlines.

Current environmental information reviewed demonstrates that the proposed clearing remains consistent with all aspects of Clearing Permit Decision Report CPS 2550/2.

Methodology

GIS Database:
- DEC Tenure
- Groundwater Salinity, Statewide
- Hydrographic Catchments - Catchments
- Hydrography, linear
- IBRA WA (regions – subregions)
- Pre-European Vegetation
- Rangeland Land System Mapping
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered

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

Comments

There is one native title claim (WC05/6) over the area under application. This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There is one registered Aboriginal Sites of Significance within the application area (GIS Database). 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.

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 amendment application was advertised on 3 September 2012 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the proposed clearing.

Methodology

GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims – Registered with the NNTT

4. References

BHP Billiton (2008) Jimblebar Junction to Newman Hub: Application to Clear Native Vegetation (Purpose Permit) under the *Environmental Protection Act 1986*. May 2008.

BHP (2012) BHP Billiton Iron Ore Mining Operations: Application to amend clearing permit CPS 2550/2 documents.

Ecologia Environment Pty Ltd (2008) Rapid Growth Project 5: Newman to Jimblebar Rail Duplication Flora and Vegetation Survey. February 2008. Unpublished report for BHP Billiton Iron Ore Pty Ltd.

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

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DEC), Western Australia
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DoE	Department of Environment (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
EP Act	Environmental Protection Act 1986, Western Australia
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI Act	Rights in Water and Irrigation Act 1914, Western Australia
s.17	Section 17 of the Environment Protection Act 1986, Western Australia
TEC	Threatened Ecological Community

Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-

P1	**Priority One - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P2	**Priority Two - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P3	**Priority Three - Poorly Known taxa**: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under

consideration for declaration as 'rare flora', but are in need of further survey.

P4 **Priority Four – Rare taxa**: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.

R **Declared Rare Flora – Extant taxa** *(= Threatened Flora = Endangered + Vulnerable)*: taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

X **Declared Rare Flora - Presumed Extinct taxa**: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

Schedule 1 **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.

Schedule 2 **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.

Schedule 3 **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.

Schedule 4 **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

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

P1 **Priority One: Taxa with few, poorly known populations on threatened lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P2 **Priority Two: Taxa with few, poorly known populations on conservation lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P3 **Priority Three: Taxa with several, poorly known populations, some on conservation lands**: Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P4 **Priority Four: Taxa in need of monitoring**: Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.

P5 **Priority Five: Taxa in need of monitoring**: Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

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

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

EX(W) **Extinct in the wild:** A native species which:
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.

CR **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.

EN **Endangered:** A native species which:
(a) is not critically endangered; and
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

VU **Vulnerable:** A native species which:
(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with

the prescribed criteria.

CD **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.

Principles for clearing native vegetation:

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

(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.

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare 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.

(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.

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

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

(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.

(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.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.