



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3084/1
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 Area: Shire Of East Pilbara
Colloquial name: Ore Body 25 access road

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.81		Mechanical Removal	Road construction

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
The vegetation of the application area is broadly mapped as Beard Vegetation Association 82: Hummock grasslands, low tree steppe; snappy gum over <i>Triodia wiseana</i> (GIS Database). BHP Billiton (2008) describe the vegetation of the application area as consisting of the following two vegetation associations. 1. Open mixed Acacia shrubland with scattered Senna spp over open <i>Triodia</i> hummock grassland. 2. Open Mulga (<i>Acacia aneura</i>) woodland over degraded grassland dominated by Buffel Grass (*<i>Cenchrus ciliaris</i>).	BHP Billiton Iron Ore Pty Ltd (BHP Billiton) have applied to clear up to 0.81 hectares of native vegetation within a total application area of approximately 7.08 hectares. The proposed clearing is for the purposes of constructing a heavy vehicle bypass road to allow for a direct crossing of the Great Northern Highway (BHP Billiton, 2008). Currently vehicles have to merge onto the Great Northern Highway before turning off approximately 250 metres down the Highway to freight ammonium nitrate from the ammonium production facility to the mine site (BHP Billiton, 2008; GIS Database).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).	The vegetation condition was derived from a description by BHP Billiton (2008).

* Denotes weed species

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 Hamersley subregion of the of the Pilbara Interim Biogeographic Regionalisation for Australia bioregion (IBRA) (GIS Database). According to the Continental Stress Class, which describes the landscape health of biogeographic regions in Australia, the Hamersley subregion is classed as 6, where 1 is most stressed and 6 is least (Kendrick, 2001).

A total of 40 flora species from 14 families were recorded within the application area (BHP Billiton, 2008). No Declared Rare Flora or Priority Flora was recorded in the application area (BHP Billiton, 2008).

Twenty-nine species of fauna were recorded in the application area comprising two species of introduced mammals, 24 species of birds and three species of reptiles (BHP Billiton, 2008).

No flora species listed as Declared weeds under the *Agriculture and Related Resources Protection Act 1976* were recorded in the application area, while one general environmental weed was recorded: Buffel Grass (*Cenchrus ciliaris*) (BHP Billiton, 2008).

The presence of introduced weed species diminishes the biodiversity value of an area (CALM, 1999). Care needs to be taken to ensure that vehicles and machinery brought onto the application area do not introduce weeds to non-infested areas. Should a clearing permit be granted, it is recommended that appropriate conditions be imposed to minimise the risk of clearing operations spreading or introducing weeds to non-infested areas.

Given the small area of proposed clearing this proposal is unlikely to have any significant impact on the biological diversity of the region.

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

Methodology BHP Billiton (2008)
CALM (1999)
Kendrick (2001)
GIS Database:
- Interim Biogeographic Regionalisation of Australia (subregions)

Officer Chris HEARY

(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 application area is adjacent to an existing road and mine-related infrastructure, and is unlikely to represent significant fauna habitat in comparison to less disturbed sites in the surrounding area (BHP Billiton, 2008). The small area of proposed clearing is unlikely to have any significant impact on fauna habitat at either a local or regional level.

The fauna habitat of the southern half of the application area has been degraded by cattle grazing, with animals attracted to the area by ponding water to the east of the application area as a result of outflow from the Waste Water Treatment Plant (BHP Billiton, 2008). In addition, a dense coverage of Buffel Grass has been noted and evidence of rabbits was recorded along the road verge (BHP Billiton, 2008).

The fauna habitats of the northern half of the application area contain generally intact vegetation with little evidence of weed infestation and only minimal degradation from cattle trampling and/or grazing (BHP Billiton, 2008). No restricted fauna habitat types were identified in the application area such as caves, rock crevices, or natural water sources (BHP Billiton, 2008).

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

Methodology BHP Billiton (2008)

Officer Chris HEARY

(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

A flora survey of the application area was undertaken by BHP Billiton's senior ecologist and two environmental advisors on 18 September 2008 (BHP Billiton, 2008). Surveys of the application area have also been conducted by GHD in 2008 as part of larger flora surveys in the local area (BHP Billiton, 2008).

The field flora survey comprised walking transects within the application area documenting all flora species observed. For each flora species recorded an estimate of distribution within the study area was made (BHP Billiton, 2008).

The vegetation associations within the application area are common and widespread within the Pilbara bioregion (BHP Billiton, 2008), and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of rare flora., especially given the small size of the proposed clearing area (0.81 hectares).

The nearest known Declared Rare Flora are six populations of *Lepidium catapycnon* which occur fairly close together and are approximately seven kilometres west of the application area (GIS Database). Department of Environment and Conservation (DEC) databases have no records of any other populations of Declared Rare or Priority Flora within a 50 kilometre radius of the area applied to clear (GIS Database).

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

Methodology BHP Billiton (2008)
GIS Database:
- Declared Rare and Priority Flora List
- Pre-European Vegetation

Officer Chris HEARY

(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 application area (GIS Database). The nearest known TEC is the Ethel Gorge aquifer stygobiont community which is located approximately 12 kilometres east of the application area (GIS Database).

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

Methodology GIS Database:
- Threatened Ecological Communities

Officer Chris HEARY

(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 is located within the Pilbara Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Shepherd et al. (2001) report that approximately 99.9% of the pre-European vegetation still exists in the Pilbara Bioregion. The vegetation in the application area is broadly mapped as 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 100% of this vegetation type remaining.

Although several large scale mining operations are located within a 50 kilometre radius of the application area (BHP Billiton, 2008; GIS Database), on a broader scale the Pilbara region has not been extensively cleared. Hence the application area is not considered to represent a significant remnant of native vegetation in an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% of Pre-European area in IUCN Class I-IV Reserves
IBRA Bioregion - Pilbara	17,804,164	17,794,164	~99.9	Least Concern	6.3
Beard vegetation associations - WA					
82	2,565,930	2,565,930	~100	Least Concern	10.2
Beard vegetation associations - Pilbara Bioregion					
82	2,563,610	2,563,610	~100	Least Concern	10.2

* Shepherd et al. (2001) updated 2005

** Department of Natural Resources and Environment (2002)

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

Methodology BHP Billiton (2008)
Department of Natural Resources and Environment (2002)
Shepherd et al. (2001)
GIS Database:
- Interim Biogeographic Regionalisation of Australia
- Pre-European Vegetation

Officer Chris HEARY

(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 at variance to this Principle

There are no watercourses, wetlands or ephemeral drainage lines within the application area (GIS Database). None of the vegetation associations identified from the application area are associated with watercourses or wetlands (BHP Billiton, 2008).

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

Methodology BHP Billiton (2008)
GIS Database:
- Hydrography, Linear
- Lakes, 1M
- Rivers 250K

Officer Chris HEARY

(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 falls within the Newman Land System (GIS Database).

The Newman Land System consists of lower slopes, with stony soils and some red loamy earths; narrow drainage floors up to 400 metres in width with stony mantles on shallow red loam soils; and lower stony plains with stony soils, shallow loams or loamy earth soils. The Newman Land System soils are not particularly prone to soil erosion (Van Vreeswyk et al., 2004).

The proposed clearing is for the purpose of road construction. This landuse is unlikely to lead to appreciable land degradation or erosion. Particularly given the small scale of the proposal.

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

Officer Chris HEARY

(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

There are no conservation areas in the vicinity of the application area. The nearest DEC managed land is the Karijini National Park, approximately 120 kilometres north-west of the application area (GIS Database).

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

Methodology GIS Database:
- CALM Managed Lands and Waters

Officer Chris HEARY

(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 (PDWSA) (GIS Database). All activities conducted within the PDWSA, should be in accordance with the Department of Water (DoW) Land Use Compatibility Tables (DoW, 2008). Advice received from the Department of Water on 19 January 2009 regarding the Newman Water Reserve states: "BHP Billiton is both the water service provider utilising this water sources and the applicant for the clearing permit. If the clearing associated activities lead to contamination of the water source then there is an expectation that BHP [Billiton] would be responsible for remediation of any potential water contamination" (DoW, 2008).

The small area of the proposed clearing (0.81 hectares) is unlikely to cause deterioration in the quality of surface or ground water.

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

Methodology BHP Billiton (2008)
DoW (2008)
GIS Database:
- Hydrography, Linear
- Public Drinking Water Source Areas

Officer Chris HEARY

(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

Due to the small size of the proposed clearing (0.81 hectares) it is very unlikely to cause, or exacerbate, the incidence or intensity of flooding (BHP Billiton, 2008).

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

Methodology BHP Billiton (2008)
Officer Chris HEARY

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

The clearing permit application was advertised on 20 April 2009 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim over the application area. This claim (WC99-004) has been registered with the National Native Title Tribunal on behalf of the 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 (ie. 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 known 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.

The proponent is committed to the management and protection of Aboriginal heritage sites (BHP Billiton, 2005). BHP Billiton has a heritage protocol agreement with the Nyiyaparli people (traditional owners of the Newman area), and regularly consult with the Nyiyaparli people to undertake Aboriginal heritage surveys in and around Newman (BHP Billiton, 2008). BHP Billiton also has an internal process; the Project Environment and Aboriginal Heritage Review (PEAHR), which is designed to prevent inadvertent disturbance of Aboriginal heritage sites within BHP Billiton operations. Prior to the commencement of any land disturbance activity, a PEAHR must be completed and submitted to BHP Billiton's Aboriginal Affairs Department for assessment. All land disturbance activities must be approved by BHP Billiton's Environment and Aboriginal Heritage staff (BHP Billiton, 2005).

The application area is located within the Newman Water Reserve, a Public Drinking Water Source Area (PDWSA) (GIS Database). The Department of Water (DoW) has advised that all activities conducted within the PDWSA should be compatible with the DoW's Land Use Compatibility Tables (DoW, 2008). The proponent is advised to seek further advice from the DoW to ensure compliance in this regard.

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.

Methodology BHP Billiton (2005)
BHP Billiton (2008)
GIS Databases:
- Aboriginal Sites of Significance
- Native Title Claims

Officer Chris HEARY

4. Assessor's comments

Comment

The proposal has been assessed against the Clearing Principles, and is not at variance to Principles (e) and (f), and is not likely to be at variance to Principles (a), (b), (c), (d), (g), (h), (i) and (j).

Should the permit be granted, it is recommended that conditions be imposed on the permit for the purposes of record keeping, weed management and permit reporting.

5. References

- BHP Billiton (2005) Aboriginal Heritage Induction Handbook. BHP Billiton Iron Ore Pty Ltd, Western Australia.
- BHP Billiton (2008) Mount Whaleback - Newman Clearing Permit Application. BHP Billiton Iron Ore Pty Ltd, Western Australia.
- CALM (1999) Environmental Weed Strategy for Western Australia, Department of Conservation and Land Management, Perth, 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.
- DoW (2008) Public Drinking Water Source Area (PDWSA) Advice. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR). Department of Water, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Kendrick (2001) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, 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 (updated 2005).
- 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.
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
DMP	Department of Mines and Petroleum
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.