

# **Clearing Permit Decision Report**

# 1. Application details

1.1. Permit application details

Permit application No.: 7439/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: BHP Billiton Nickel West Pty Ltd

1.3. Property details

Property: Mining Lease 36/246
Mining Lease 36/422

Local Government Area: Shire of Leonora

Colloquial name: Yakabindie Nickel Project

1.4. Application

Clearing Area (ha) No. Trees Method of Clearing For the purpose of:

3 Mechanical Removal Stygofauna monitoring bores and access tracks

1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 9 March 2017

# 2. Background

## 2.1. Existing environment and information

## 2.1.1. Description of the native vegetation under application

Vegetation Description

The clearing permit application area has been broadly mapped as Beard vegetation association 39: Shrublands; mulga scrub (GIS Database).

A flora and vegetation survey was conducted by Western Botanical in May 2016 over the area known as the Mt Keith Satellite Operations project area (Western Botanical, 2016). The survey area included the application area and surrounding areas, covering a total area of approximately 5,422 hectares (Western Botanical, 2016).

The following vegetation communities were recorded within the broader survey area (Western Botanical, 2016):

DRES: Drainage Tract Eucalypt Shrubland;

EGPW: Eucalyptus gypsophila - Eremophila pantonii Woodland;

GHPS: Greenstone Hakea - Eremophila pantonii Shrublands;

GRMU: Groved Mulga Shrubland;

SAESQ: Stony Plain Acacia eremophila Shrublands with Quartz;

SBES: Stony Bluebush Eremophila Shrublands;

SIMS: Stony Ironstone Mulga Shrublands;

SIS: Stony Ironstone Senna Shrublands;

SMS: Stony Mulga Shrublands;

USBS: Upper Slope Bluebush Shrublands; and

WABS: Wanderrie Bank Grassy Shrubland.

Clearing Description Yakabindie Nickel Project.

BHP Billiton Nickel West Pty Ltd proposes to clear up to 3 hectares of native vegetation within a boundary of approximately 21 hectares, for the purposes of stygofauna monitoring bores and access tracks. The project is

located approximately 56 kilometres north-northwest of Leinster, within the Shire of Leonora.

Vegetation Condition Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery,

1994);

Pristine: Pristine or nearly so, no obvious signs of disturbance.

#### Comment

The vegetation condition was derived from a vegetation survey conducted by Western Botanical (2016).

The proposed clearing is for three stygofauna monitoring bores and associated access tracks (BHP Billiton Nickel West, 2017).

# 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 Eastern Murchison subregion of the Murchison Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). The Eastern Murchison subregion is characterised by broad plains of red-brown soils and breakaway complexes as well as red sandplains. The vegetation of this subregion is dominated by Mulga Woodlands often rich in ephemerals; hummock grasslands, saltbush shrublands and Halosarcia shrublands (CALM, 2002). The Eastern Murchison subregion supports a rich and diverse flora and fauna, however most species are wide ranging and not restricted to the subregion (CALM, 2002).

Flora and vegetation surveys were conducted by Western Botanical in May 2016 over the application area and surrounding areas (Western Botanical, 2016). A total of 171 flora taxa were recorded during the survey, representing 36 families and 81 Genera (Western Botanical, 2016). The flora and vegetation within the application area was considered typical of the region (Western Botanical, 2016).

No Threatened Ecological Communities have been recorded within or in close proximity to the application area, and none were found during the survey (Western Botanical, 2016; GIS Database). The application area falls within the mapped boundary of a Priority Ecological Community (PEC). This Priority 1 PEC, "Violet Range (Perseverance Greenstone Belt) vegetation complexes (banded ironstone formation)" is mapped over a total area of approximately 14,637 hectares (GIS database). The clearing permit application area (approximately 21 hectares) represents a very small proportion of the mapped area of the PEC, and the proposed clearing of three hectares is unlikely to have any significant impact on the PEC.

No Threatened flora species were recorded during the survey, and none were expected to be found (Western Botanical, 2016). Ten Priority flora species have the potential to occur within the application area, based on known distributions (Western Botanical, 2016). Some Priority flora species were recorded within the broader survey area, including one species, *Hemigenia exilis* (P4) which was recorded in close proximity to the application area. No Priority flora have been recorded within the current clearing permit application area (Western Botanical, 2016), however the small scale of the proposed clearing is unlikely to impact the conservation status of any Priority flora species, if present.

The vegetation condition within the application area ranged from Excellent to Pristine on the Keighery scale, with minimal evidence of disturbance from pastoral activities (Western Botanical, 2016). Four weed species were recorded during the flora surveys, but weeds were not widespread, occurring only in isolated small populations (Western Botanical, 2016). The most commonly recorded weed species were *Cenchrus ciliaris* (Buffel grass) and *Cenchrus setiger* (Birdwood Grass). Weeds have the potential to out-compete native flora and reduce the biodiversity of an area, and care should be taken to avoid further weed invasion. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Several fauna surveys have been conducted over the application area and adjacent areas over several years, and Biota Environmental Sciences (Biota) conducted a review of these surveys in 2016 (Biota, 2016). Biota (2016) concluded that the fauna assemblage within the application area was typical of the region.

The Murchison Bioregion remains largely uncleared (Government of Western Australia, 2015), and the landforms, vegetation associations and fauna habitat types found within the application area are well represented within the region, including the nearby Wanjarri Nature Reserve (Biota, 2016; Western Botanical, 2016; GIS Database). The application area is unlikely to represent an area of higher biodiversity than surrounding areas.

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

# Methodology

Biota (2016) CALM (2002)

Government of Western Australia (2015)

Western Botanical (2016)

## GIS Database:

- IBRA Australia
- Pre-European Vegetation
- Threatened and Priority Flora

- Threatened and Prioirty Ecological Communities Boundaries

# (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

Several fauna surveys have been conducted over the application area and surrounds, over a number of years. Biota Environmental Sciences (Biota) conducted a comprehensive review of these surveys in 2016 (Biota, 2016).

Biota (2016) reported that the habitat types within the current clearing permit application did not contain any restricted fauna habitats.

One species of conservation significance, the Priority 4 Brush-tailed Mulgara (*Dasycercus blythi*), has been recorded within the application area (Biota, 2016). However there is abundant suitable habitat for the Mulgara in surrounding areas, and the small area of proposed clearing is unlikely to have any significant impact on the available Mulgara habitat. Several other fauna species of conservation significance (mostly birds) have the potential to occur within the application area (Biota, 2016). However, the majority of these species are highly mobile and all have wide distributions, and although they may pass through or forage within the area, they are unlikely to be specifically dependant on the habitats within the application area (Biota, 2016).

The fauna habitats found within the application area are relatively common and widespread in the region and are well represented in the nearby Wanjarri Nature Reserve (Biota, 2016; GIS Database). Biota (2016) concluded that potential impacts to fauna are generally likely to be minor, and the vegetation proposed to be cleared is unlikely to represent significant habitat for fauna in a regional context.

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

# Methodology Biota (2016)

GIS Database:

- Imagery
- 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

A flora survey of the application area did not record any species of Threatened flora (Western Botanical, 2016). The vegetation associations recorded within the application area are well represented in surrounding areas (Western Botanical, 2016; GIS Database), and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened (rare) flora.

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

# Methodology Western Botanical (2016)

GIS Database:

- Threatened and Priority Flora
- Pre-European Vegetation

# (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 (TECs) located within or in close proximity to the application area (GIS Database).

Surveys of the application area did not identify any TECs (Western Botanical, 2016).

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

#### Methodology Western Botanical (2016).

GIS Database:

- Threatened and Prioirty Ecological Communities Boundaries

# (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 area applied to be cleared is located within the Murchison IBRA bioregion (GIS Database). There is approximately 99% of pre-European vegetation remaining within the bioregion (Government of Western Australia, 2015).

The application area is broadly mapped as Beard vegetation association 39: Shrublands; mulga scrub (GIS Database). Approximately 99% of the pre-European extent of this vegetation association remains uncleared at both the state and bioregional level (Government of Western Australia, 2015). Hence, the vegetation proposed to be cleared does not represent a significant remnant of vegetation in an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW managed lands
IBRA Bioregion - Murchison	28,120,586	28,044,823	~ 99	Least Concern	7.78
Beard vegetation association - State					
39	6,613,569	6,602,580	~ 99	Least Concern	12.02
Beard vegetation association - Bioregion					
39	1,148,400	1,138,064	~ 99	Least Concern	3.56

<sup>\*</sup> Government of Western Australia (2015)

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

#### Methodology

Department of Natural Resources and Environment (2002)

Government of Western Australia (2015)

GIS Database:

- IBRA Australia
- Pre-European Vegetation

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

# **Comments** Proposal is at variance to this Principle

There are no permanent watercourses or wetlands within or in close proximity to the application area (GIS Database).

Two minor ephemeral drainage lines pass through the edges of the application area (GIS Database). Drainage lines in the region are dry for most of the year, only flowing briefly, immediately following significant rainfall (CALM, 2002).

Based on the above, the proposed clearing is at variance to this Principle. However, the small area of proposed clearing is unlikely to have any significant impact on vegetation associated with any water courses.

#### Methodology

GIS Database:

- Hydrography, Lakes
- Hydrography, linear

<sup>\*\*</sup> 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

The application area falls within the Nubev and Tiger land systems (GIS Database). These land systems have been mapped and described in technical bulletins produced by the former Department of Agriculture (now the Department of Agriculture and Food).

The Nubev land system is described as undulating stony plains, minor low rises and drainage floors, supporting mulga and halophytic shrublands (Pringle et. al., 1994). Drainage zones within this land system are moderately susceptible to soil erosion, if vegetation cover is removed. The saline plains may also be susceptible to water erosion if protective stony mantles are disturbed (Pringle et. al., 1994).

The Tiger land system consists of gravelly hardpan plains and sandy banks supporting mulga shrublands and wanderrie grasses (Pringle et. al., 1994). This land system is generally not susceptible to erosion (Pringle et. al., 1994).

Although some parts of the application area may be susceptible to erosion, the very small areas of the proposed clearing for monitoriing bores and access tracks are unlikely to cause appreciable land degradation.

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

#### Methodology Pringle et. al. (1994)

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 nearest conservation area is the Wanjarri Nature Reserve, which is located approximately 1.3 kilometres to the east of the application area, at its nearest point, and is managed for conservation purposes by the Department of Parks and Wildlife (GIS Database).

The clearing permit application area falls within an Environmentally Sensitive Area, listed on the Register of National Estate under the name of Wanjarri Nature Reserve, however the application area does not fall within the current boundaries of the Wanjarri Nature Reserve (GIS Database). The boundaries of the Wanjarri Nature Reserve were changed in 2012, excising a triangular shaped area of approximately 744 hectares from the western edge of the reserve (BHP Billiton Nickel West, 2017; GIS Database). The current clearing permit application area is located within the excised area (BHP Billiton Nickel West, 2017). The small area of proposed clearing is unlikely to have any impacts on ecological linkages to the Wanjarri Nature Reserve.

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

# **Methodology** GIS Database:

- DPaW Tenure
- Register of National Estate

# (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

There are no Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database). The proposed clearing is unlikely to result in deterioration in the quality of groundwater.

There are no permanent watercourses or wetlands within the application area (GIS Database). Two minor ephemeral drainage lines pass through the edge of the application area (GIS Database). However, they are dry for most of the year, only flowing briefly immediately following significant rainfall (CALM, 2002). The proposed clearing is unlikely to result in increased sedimentation of any watercourse, or cause deterioration in the quality of surface water.

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

### Methodology CALM (2002)

GIS Database:

- Hydrography, Linear
- Public Drinking Water Source Areas

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

# Comments Proposal is not likely to be at variance to this Principle

The climate of the region is arid, with a low average rainfall of approximately 200 millimetres per year (CALM, 2002). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (CALM, 2002).

There are no permanent water courses or waterbodies within the application area (GIS Database). Two minor ephemeral drainage lines pass through the edge of the application area (GIS Database). Temporary localised flooding may occur during heavy rainfall events. However, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.

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

### Methodology CALM (2002)

GIS Database:

- Hydrography, linear

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

#### Comments

The clearing permit application was advertised on 30 January 2017 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to this application.

Several registered Aboriginal Sites of Significance are located within or in close proximity to the application areas (DAA, 2017). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

There is one native title claim (WC2011/007) over the area under application (DAA, 2017). However, the mining 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*.

It is the proponent's responsibility to liaise with the Department of Environment Regulation, the Department of Water, and the Department of Parks and Wildlife, 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 DAA (2017)

### 4. References

- BHP Billiton Nickel West (2017) Application for a clearing permit, Purpose Permit. BHP Billiton Nickel West Pty Ltd, January 2017
- Biota (2016) Yakabindie Section 18 Fauna Assemblage and Habitats Review. Report prepared for BHP Billiton Nickel West Pty Ltd, by Biota Environmental Science, June 2016.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DAA (2017) Aboriginal Heritage Enquiry System. Department of Aboriginal Affairs. <a href="http://maps.dia.wa.gov.au/AHIS2/">http://maps.dia.wa.gov.au/AHIS2/</a> (Accessed 3 March 2017).
- 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.
- Government of Western Australia (2015) 2015 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2015. WA Department of Parks and Wildlife, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Pringle, H.J.R., Van Vreeswyk, A.M.E., and Gilligan, S.A. (1994) An Inventory and Condition Survey of the north-eastern Goldfields, Western Australia. Department of Agriculture, Western Australia.
- Western Botanical (2016) Flora and Vegetation Assessment, Yakabindie Nickel Project. Report prepared for BHP Billiton Nickel West Pty Ltd, by Western Botanical, June 2016.

# 5. Glossary

### **Acronyms:**

BoM Bureau of Meteorology, Australian Government

DAA Department of Aboriginal Affairs, Western Australia

DAFWA Department of Agriculture and Food, Western Australia

DEC Department of Environment and Conservation, Western Australia (now DPaW and DER)

**DEE** Department of the Environment and Energy, Australian Government

DER Department of Environment Regulation, Western Australia
DMP Department of Mines and Petroleum, Western Australia

**DRF** Declared Rare Flora

**DoE** Department of the Environment, Australian Government (now DEE)

**DoW** Department of Water, Western Australia

**DPaW** Department of Parks and Wildlife, Western Australia

DSEWPaC Department of Sustainability, Environment, Water, Population and Communities (now DEE)

EPA Environmental Protection Authority, Western Australia
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

PEC Priority Ecological Community, Western Australia

RIWI Act Rights in Water and Irrigation Act 1914, Western Australia

TEC Threatened Ecological Community

#### **Definitions:**

{DPaW (2015) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

#### T Threatened species:

Published as Specially Protected under the *Wildlife Conservation Act 1950*, listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).

**Threatened fauna** is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the Wildlife Conservation Act.

**Threatened flora** is flora that has been declared to be 'likely to become extinct or is rare, or otherwise in need of special protection', pursuant to section 23F(2) of the Wildlife Conservation Act.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

### CR Critically endangered species

Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

### EN Endangered species

Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

# VU Vulnerable species

Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

## EX Presumed extinct species

Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published as Specially Protected under the Wildlife Conservation Act 1950, in

Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora.

### IA Migratory birds protected under an international agreement

Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.

#### CD Conservation dependent fauna

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.

# OS Other specially protected fauna

Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.

# P Priority species

Species which are poorly known; or

Species that are adequately known, are rare but not threatened, and require regular monitoring. Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

## P1 Priority One - Poorly-known species:

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

# P2 Priority Two - Poorly-known species:

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

## P3 Priority Three - Poorly-known species:

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

## P4 Priority Four - Rare, Near Threatened and other species in need of monitoring:

- (a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.
- (b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for Vulnerable, but are not listed as Conservation Dependent.
- (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.