



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5153/2
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Hamersley Iron Pty Ltd

1.3. Property details

Property: Iron Ore (Hamersley Range) Agreement Act 1963, Mineral Lease 246SA (AML 70/246);
Iron Ore (Channar Joint Venture) Agreement Act 1987, Special Lease for Mining Operations
3116/11553 (Document 1 163654 I), Lot 132 on Deposited Plan 243064;
Iron Ore (Hamersley Range) Agreement Act 1963, Special Lease for Mining Operations
3114/937, Easement L478326

Local Government Area: Shire of Ashburton
Colloquial name: Turee Creek Pipeline Upgrade Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
100		Mechanical Removal	Installation of water supply pipeline

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 28 May 2015

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 and are useful to look at vegetation in a regional context. Two Beard vegetation associations have been mapped within the application area:

Beard vegetation association 82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*; and

Beard vegetation association 181: Shrublands; mulga & snakewood scrub (Government of Western Australia, 2011; GIS Database).

Rio Tinto (2012) conducted flora and vegetation survey of the application area. The biological review identified and mapped 12 vegetation types associated with three landform types:

Vegetation of Hills and Slopes

H1 – Scattered low trees of *Acacia pruinocarpa* and *Grevillea berryana* over scattered tall shrubs of *Acacia fuscaneura* and *Acacia tetragonophylla* over low open shrubland of *Eremophila fraseri* subsp. *fraseri*, *Eremophila jucunda* subsp. *pulcherrima*, *Eremophila phyllopoda* subsp. *oblique* and *Senna stricta* over open hummock grassland of *Triodia epactia*;

H2 – Low open woodland – scattered tall shrubs of *Acacia fuscaneura*, *Acacia rhodophloia* and *Grevillea berryana* over scattered shrubs of *Acacia tetragonophylla* over low open shrubland of *Eremophila phyllopoda* subsp. *oblique*, *Eremophila fraseri* subsp. *fraseri*, *Eremophila jucunda* subsp. *pulcherrima* and *Senna stricta*; and

H3 – Tall open shrubland of *Acacia bivenosa*, *Acacia wanyu* and *Acacia tetragonophylla* over low open shrubland of *Eremophila cuneifolia*, *Senna stricta* and *Senna artemisioides* subsp. *oligophylla* over open hummock grassland of *Triodia wiseana* and *Triodia angusta*.

Vegetation of Flats and Undulating Slopes

F1 – Low woodland of *Acacia citrinoviridis* with *Acacia fuscaneura* over tall open shrubland of *Acacia wanyu*, *Acacia citrinoviridis* and *Acacia tetragonophylla* over scattered low shrubs of *Ptilotus obovatus*;

F2 – Low open woodland – tall open shrubland of *Acacia citrinoviridis* and *Acacia fuscaneura* over scattered tall shrubs of *Acacia tetragonophylla* over scattered low shrubs of *Eremophila jucunda* subsp. *pulcherrima*, *Eremophila phyllopoda* subsp. *obliqua* and *Ptilotus obovatus* var. *obovatus* over open hummock grassland of *Triodia epactia*;

F3 – Low open woodland – tall open shrubland of *Acacia fuscaneura* over tall open shrubland of *Acacia wanyu* and *Acacia tetragonophylla* over open shrubland of *Eremophila phyllopoda* subsp. *obliqua*, *Senna stricta* and *Eremophila cuneifolia* over scattered low shrubs of *Ptilotus obovatus* var. *obovatus*; and

F4 – Tall open shrubland of *Acacia xiphophylla* and *Acacia synchronicia*, *Acacia fuscaneura* and *Acacia tetragonophylla* over open shrubland of *Senna stricta*, *Eremophila cuneifolia* and *Senna artemisioides* subsp. *oligophylla*.

Vegetation of Flowlines and Waterbodies

D1 – Scattered trees of *Eucalyptus victrix* over low open woodland of *Acacia citrinoviridis* over tall shrubland of *Acacia citrinoviridis* and *Acacia pyrifolia* var. *pyrifolia* over scattered low shrubs of *Tephrosia rosea* and very open tussock grassland of *Cenchrus ciliaris*;

D2 – Low open woodland – tall open shrubland of *Acacia fuscaneura* with *Acacia citrinoviridis*, *Acacia aptaneura* and *Acacia pruinocarpa* over open shrubland of *Acacia wanyu* and *Acacia tetragonophylla* over open hummock grassland of *Triodia epactia*;

D3 – Scattered low trees of *Acacia citrinoviridis* over tall shrubland of *Acacia citrinoviridis*, *Acacia wanyu*, *Acacia tetragonophylla* over open hummock grassland of *Triodia epactia*;

D4 – Tall shrubland of *Acacia bivenosa*, *Acacia tetragonophylla* and *Acacia wanyu* over open hummock grassland

of *Triodia wiseana* and *Triodia epactia*; and

D5 – Scattered tall shrubs of *Acacia citrinoviridis* and *Acacia pyrifolia* var. *pyrifolia* with *Acacia tetragonophylla* over

tussock grassland of *Cenchrus ciliaris* and *Eragrostis tenellula* over very open herbland of *Goodenia lamprosperma* and *marsilea hirsuta*.

Previously Cleared Land

CL – Previously cleared vegetation

The vegetation associations present within the application area are consistent those identified in clearing permit CPS 5153/1.

Clearing Description	Turee Creek Pipeline Upgrade Project Hamersley Iron Pty Ltd proposes to clear up to 100 hectares of native vegetation within a total boundary of 209.39 hectares for the purpose of the installation of a water supply pipeline. The project is located approximately 10 kilometres south of Paraburdoo, in the Shire of Ashburton.
Vegetation Condition	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994); to: Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).
Comment	Clearing permit CPS 5153/1 was granted by the Department of Mines and Petroleum on 20 September 2012. The clearing permit authorised the clearing of 90 hectares of native vegetation within a total boundary of 203 hectares. Hamersley Iron Pty Ltd applied for an amendment to clearing permit COS 5153/1 on 19 March 2015. Hamersley Iron Pty Ltd requested to amend the boundary of the application area from 203 hectares to 209.39 hectares, and to increase the clearing limit from 90 hectares to 100 hectares.

3. Assessment of application against clearing principles

Comments

Hamersley Iron Pty Ltd has applied to increase the area of clearing by 10 hectares and increase the permit boundary by approximately 6.39 hectares.

The amended application boundary does not intersect any additional vegetation communities to those present within the previous permit area (Rio Tinto, 2012). According to available databases and flora survey results, there are no Threatened flora, Priority Ecological Communities, or Threatened Ecological Communities present within the application area (Rio Tinto, 2012; GIS Database).

There were two Priority Flora species recorded within the application area (Rio Tinto, 2012). Rio Tinto (2012) recorded *Hibiscus* sp. Canga (Priority 1) from ten locations within the application area. Rio Tinto (2012) state that this species has previously been referred to as *Hibiscus haynaldii* and *Hibiscus* sp. (aff. *haynaldii*) from previous botanical reports within the region (Biota, 2009; Morgan, 2012; Rio Tinto, 2010). The species occurs in flowlines and rocky gullies which are not restricted within the application area and are common throughout the region and appears to be spread across the Eastern Range, Channar, Western Range and Turee Syncline region (Rio Tinto, 2012). This species will be avoided by Hamersley Iron Pty Ltd's clearing activities where possible (Rio Tinto, 2012). A Priority 3 species *Goodenia* sp. East Pilbara was recorded at 24 locations from one calcrete hill in the central section of the application area and 349 individuals were surveyed within the application area (Rio Tinto, 2012). Hamersley Iron Pty Ltd has designated the entire population as an 'environmentally sensitive area' on the Pilbara Iron GIS system will avoid these identified populations where possible (Rio Tinto, 2012). The clearing of 100 hectares of native vegetation will not impact the conservation significance of these flora species. The amendment to increase the boundary of the application area from 203 hectares to 209.39 hectares, and to increase the clearing limit from 90 hectares to 100 hectares is unlikely to result in any significant change to the environmental impacts of the proposed clearing.

Rio Tinto (2012) and available databases (GIS Database), show three fauna habitats to exist within the amended application area:

1. Hill slopes;
2. Plains; and
3. Drainage lines.

Aerial imagery over the application area and surrounds indicates that these fauna habitats are widespread

within the region (GIS Database), and does not indicate the presence of any habitat features which may be important for habitat specific fauna (Rio Tinto, 2012; GIS Database). A search of the NatureMap database (DEC, 2015) did not return records for any conservation significant species which are likely to be dependent on the application area. Therefore, based on a flora and vegetation survey of the application area and available databases, the proposed clearing is unlikely to comprise significant fauna habitat (Rio Tinto, 2012; DEC, 2015; GIS Database).

The application area is dissected by small ephemeral watercourses that run after significant rainfall events, as is typical of the Pilbara region (Rio Tinto, 2012; GIS Database). There are five riparian vegetation types mapped within the application area; D1, D2, D3, D4 and D5 (Rio Tinto, 2012). The flora species associated with vegetation types F2 and F3 also contain species which are consistent with riparian type vegetation (DEC, 2012, Rio Tinto, 2012). The condition of the riparian vegetation types are classified as 'completely degraded' to 'very good' (Keighery, 1994; GIS Database). To minimise disturbance to drainage flow patterns, there may be a requirement to install appropriate culvers and drainage structures in order to maintain flows along creeklines. Provided disturbance to riparian habitats is avoided or minimised where possible, and strict weed hygiene procedures are followed, the proposed works are not expected to substantially impact these vegetation units. Potential impacts to riparian vegetation may be minimised through the implementation of a vegetation management condition.

The application area is within the Platform and Table land systems (GIS Database). The Platform land system is described as dissected slopes and raised plains supporting hard spinifex grasslands. The vegetation on this system is not preferred by livestock and is of very little use for pastoralism. The Table land system is described as low calcrete plateaux, mesas and lower plains supporting mulga and cassia shrublands and minor spinifex grasslands. The vegetation on the system includes low shrubs which are moderately preferred by grazing animals and are prone to decline if overgrazed. Both of these land systems are generally not susceptible to erosion (Van Vreeswyk et al., 2004). The removal of 100 hectares of native vegetation within a 209.39 hectare application area is unlikely to result in water-logging, acidification, salinisation or deep subsoil compaction, and significant erosion was not observed within the application area despite localised clearing (Rio Tinto, 2012).

Sediment loads are typically high in flowlines in the Pilbara following large rainfall events and any increase to the sediment load caused by the proposed clearing is likely to be negligible (Rio Tinto, 2012). If clearing of riparian vegetation is required there may be some localized short term sedimentation during the clearing process, however, this is not likely to be an ongoing issue. Potential impacts to riparian vegetation may be minimised through the implementation of a vegetation management condition. The clearing of vegetation as a result of this proposal is therefore unlikely to result in any further deterioration in surface or groundwater quality in the local area.

The application area experiences a semi-desert tropical climate, with an annual average rainfall of approximately 315.3 millimetres per year (CALM, 2002; BoM, 2015). Based on an average annual evaporation rate of 3,200 - 3,600 millimetres (BoM, 2015), any surface water resulting from rainfall events is likely to be relatively short lived. Given the size of the area to be cleared (100 hectares) compared to the size of the Ashburton catchment area (7,877,743 hectares) (GIS Database) it is not likely that the proposed clearing will lead to an appreciable increase in run off, and subsequently cause or exacerbate the incidence or intensity of flooding.

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the Environmental Protection Act 1986, and the proposed clearing is at variance to Principle (f), is not likely to be at variance to Principles (a), (b), (c), (d), (g), (h), (i) and (j) and is not at variance to Principle (e). The assessment against the clearing Principles remains consistent with the assessment contained in decision report CPS 5153/2.

Methodology	Biota (2009) BoM (2015) CALM (2002) DEC (2015) Morgan (2012) Rio Tinto 2010) Rio Tinto (2012) Van Vreeswyk et al. (2004) GIS Database: <ul style="list-style-type: none">- Acid Sulfate Soil Risk Map, Pilbara Coastline- Paraburdoo 50cm Orthomosaic - Landgate 2004- 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 are no native title claims over the application area (GIS Database; DAA, 2014). 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*.

There are several 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 Aboriginal sites of significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment Regulation, the Department of Parks and Wildlife 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 amended application was advertised on 27 April 2015 by the Department of Mines and Petroleum inviting submissions from the public. There was no submissions received.

Methodology

GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Determined by the Federal Court

4. References

- Biota (2009) Western Range Phase I: Vegetation and Flora Summary Report, Prepared for Rio Tinto Iron Ore, December 2009.
- BoM (2012) Climate Statistics for Australian Locations. A Search for Climate Statistics for Paraburdoo Aero, Australian Government Bureau of Meteorology, viewed 18 May 2015, <http://www.bom.gov.au/climate/averages/tables/cw_007178.shtml>.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 3 (PIL4 – Hamersley subregion) Department of Conservation and Land Management, Western Australia.
- DEC (2015) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, viewed 18 May 2015, <<http://naturemap.dec.wa.gov.au>>.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Morgan, B (2012) Flora, Vegetation and Fauna Survey for the Turee Syncline Marra Mamba Evaluation Drilling. Report for Rio Tinto (Report in Preparation).
- Rio Tinto (2010) Flora and Vegetation Assessment of the Eastern Ranges LOM Study Area (ERSA), October 2010.
- Rio Tinto (2012) Turee Creek Water Pipeline Upgrade and Paraburdoo Town feeder One Line Replacement, June 2012.
- Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A & Hennig, P. (2004) An Inventory and Condition Survey of the Pilbara Region, Western Australia, Department of Agriculture, Western Australia.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
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)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
EPA	Environmental Protection Authority, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (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	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
s.17	Section 17 of the <i>Environment Protection Act 1986</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

{DPaW (2013) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

- T** **Threatened species:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna or the Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).
Threatened Fauna and Flora are further recognised by the Department according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo *Calyptorhynchus latirostris* is specially protected under the *Wildlife Conservation Act 1950* as a threatened species with a ranking of Endangered.
Rankings:
CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild.
EN: Endangered - considered to be facing a very high risk of extinction in the wild.
VU: Vulnerable - considered to be facing a high risk of extinction in the wild.
- X** **Presumed Extinct species:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora (which may also be referred to as Declared Rare Flora).
- IA** **Migratory birds protected under an international agreement:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice.
Birds that are subject to an agreement between governments of Australia and Japan, China and The Republic of Korea relating to the protection of migratory birds and birds in danger of extinction.
- S** **Other specially protected fauna:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- P1** **Priority One - Poorly-known species:**
Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, rail reserves and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.
- P2** **Priority Two - Poorly-known species:**
Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.
- P3** **Priority Three - Poorly-known species:**
Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities 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 localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.
- 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 do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.
- P5** **Priority Five - Conservation Dependent species:**
Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.