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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6211/2
Permit type: Purpose

1.2. Proponent details

Proponent's name: **BC Iron Nullagine Pty Ltd**

1.3. Property details

Property: Mining Lease 46/523
Local Government Area: Shire of East Pilbara
Colloquial name: Warrigal Well

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
176.1		Mechanical Removal	Mineral Production and Associated Activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 24 September 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. One Beard vegetation association has been mapped within the application area (GIS Database):

173: Hummock grasslands, shrub steppe; kanji over soft spinifex and *Triodia wiseana* on basalt.

A survey conducted by Plant Ecology (2013) identified eight vegetation associations within the application area:

D2a: *Corymbia hamersleyana* scattered low trees to low woodland over mixed *Acacia* spp. Scattered shrubs to shrubland over mixed *Triodia epactia* hummock / *Cenchrus* spp. Tussock grassland.

D2b: *Corymbia hamersleyana* scattered low trees over mixed *Acacia* spp. shrubland over mixed *Triodia epactia* hummock / *Paraneurachne muelleri* tussock grassland.

D4a: *Eucalyptus camaldulensis* woodland over mixed shrubland or mixed **Cynodon dactylon* grassland / *Typha domingensis* sedgeland.

D6a: *Eucalyptus victrix* woodland over *Melaleuca* spp. high shrubland over mixed *Triodia epactia* hummock grassland / *Cenchrus* spp. tussock grassland / *Cyperus vaginatus* sedgeland.

D9a: Mixed Acacia spp. shrubland over mixed *Triodia epactia* hummock I *Cenchrus ciliaris* tussock grassland / herbland.

Hla: *Corymbia hamersleyana* scattered low trees over mixed Acacia spp. scattered shrubs to shrubland over *Triodia epactia* hummock grassland.

H8a: *Acacia aneura* and *A. pruinocarpa* low woodland over mixed Eremophila shrubland over *Triodia pungens* hummock grassland.

H9a: Mixed Acacia spp. scattered shrubs to shrubland over *Triodia epactia* hummock grassland.

Clearing Description

Warrigal Well.
BC Iron Nullagine Pty Ltd (BC Iron) proposes to clear up to 176.1 hectares of native vegetation within a total boundary of approximately 486 hectares, for the purpose of mineral production and associated activities. The project is located approximately 15 kilometres south west of Nullagine, in the Shire of East Pilbara.

Vegetation Condition

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);

To

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).

Comment

The vegetation condition was assessed by botanists from Plant Ecology (2013). The condition was assessed using a scale based on Trudgen (1988) and has been converted to the corresponding Keighery (1994) condition.

Clearing Permit CPS 6211/1 was granted by the Department of Mines and Petroleum (DMP) on 18 September 2014 and authorised the clearing of 162.4 hectares of native vegetation for mineral production and associated activities within a total boundary of approximately 435 hectares.

On 5 August 2015, BC Iron applied to amend CPS 6211/1 in order to increase the authorised clearing area by 13.7 hectares and the approved boundary by 51 hectares.

3. Assessment of application against clearing principles

Comments

The amendment to increase the authorised clearing area by 13.7 hectares and the approved boundary by 51 hectares is unlikely to have significant environmental impacts.

The application area occurs within the Chichester subregion of the Pilbara Interim Biogeographic Regionalisation of Australia bioregion (GIS Database). This subregion is characterised by plains supporting a shrub steppe of *Acacia inaequilatera* over *Triodia wiseana* hummock grasslands, while *Eucalyptus leucophloia* tree steppes occur on ranges (CALM, 2002).

A total of 280 native plant taxa, from 138 genera and 52 families, were recorded during a survey conducted by Plant Ecology (2013). No Threatened or Priority Flora were recorded within the application area during the flora survey. Plant Ecology (2013) identified four vegetation units within the proposed clearing area none of which are representative of Threatened or Priority Ecological communities.

Fourteen weed species including one declared weed *Calotropis procera* were identified by Plant Ecology (2013). Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

A total of 168 fauna species were recorded during the field surveys, including: four fish, four frog, 39 reptile, 96 bird and 25 mammal species. In general, the faunal assemblage is typical of the northern Pilbara, with many species being widespread (Bamford, 2013). Bamford (2013) identifies that the survey areas may support up to 41 species of conservation significance, 10 of which are considered likely to be present. The areas of well-developed cliff lines and riparian zone associated with Bonnie Creek and its tributaries have very high conservation significance and provide significant refugia (Bamford, 2013). A condition which limits clearing in this zone to access roads and associated roadside infrastructure and a watercourse management condition will minimise the impacts upon riparian vegetation.

There are no permanent watercourses or wetlands within the application area, however, the application area does include the ephemeral Bonnie Creek and its tributaries which flow into the Nullagine river (GIS Database; Plant Ecology, 2013). Plant Ecology (2013) have mapped a number of drainage line vegetation associations within the clearing permit area and Bamford (2013) identifies that D6a is a significant riparian zone which is linear and allows for movement of dependent fauna through the landscape and includes several small semi-permanent pools. The most significant pool is Bonnie Pool which is not included within the application area.

The land systems associated with the application area are not susceptible to erosion (Van Vreeswyk et al., 2004) and the proposed clearing is not likely to cause a deterioration in the quality of surface or underground water or increase the incidence or intensity of flooding (GIS Database).

The application area is not located within any conservation areas (GIS Database). There are no conservation areas within 50 kilometres of the application area (GIS Database).

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 is consistent with the assessment contained in decision report CPS 6211/1.

Methodology

Bamford (2013)
CALM (2002)
Plant Ecology (2013)
Van Vreeswyk et al (2004)
GIS Database:
- DPaW Tenure
- Hydrography, linear
- IBRA WA (Regions - Sub Regions)
- 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 (WC1999/016) over the area under application (DAA, 2015). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. 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 no 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 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 clearing permit application was advertised on 24 August 2015 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology

DAA (2015)
GIS Database:
- Aboriginal Sites Register System

4. References

Bamford (2013) BC Iron Nullagine Project Extension Areas -,Bonnie East, Warrigal North and Coongan: Assessment of Fauna Values, unpublished report prepared for BC Iron by Bamford Consulting Ecologists, Kingsley, WA.

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, Western Australia.

DAA (2015) Department of Aboriginal Affairs (WWW Search – Aboriginal Heritage Inquiry System). Retrieved from http://maps.dia.wa.gov.au/AHIS2/ on 24 August 2015.

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

Plant Ecology Consulting (2013), *Nullagine Iron Ore Joint Venture Project Expansion: Level 2* Flora and Vegetation Survey, report prepared for BC Iron, Perth, May 2013.

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.

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	*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
s.17	Section 17 of *the Environment Protection Act 1986*, 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 DPaW according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo *Calyptorynchus 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.

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.