



1. Application details

1.1. Permit application details

Permit application No.: 2750/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Robe River Iron Associates

1.3. Property details

Property: LOT 210 ON PLAN 91562 (COOYA POOYA 6714)
PART LOT 63 ON PLAN 54397 (COOYA POOYA 6714)
Local Government Area: Shire Of Roebourne
Colloquial name:

1.4. Application

Clearing Area (ha) 65 No. Trees Method of Clearing Mechanical Removal For the purpose of: Building or Structure

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
Beard Vegetation Association: 152 - Hummock grasslands, grass steppe; soft & hard spinifex soft spinifex	Approximately 9% of vegetation within the 177ha application area has been previously cleared (e.g access tracks) (Biota, 2008). Three vegetation types occur within the area: * 10% of the application area contains vegetation associated with creeklines, including Eucalyptus victrix low woodland over Acacia trachycarpa * 86% of the application area contains vegetation associated with stony low hills and undulating plains * 4% of the application area in the north-western corner contains vegetation on the stoney foothills of a tall range of hills (Biota, 2008).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The vegetation has been assessed using aerial photography and a biological survey of the area (Biota, 2008).

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 proposal is for the clearing of 65 hectares within a 177 hectare area for the purpose of constructing a mining camp. The area to be cleared consists of Beard vegetation association 152 of which there is approximately 100% of the Pre-European extent remaining (Shepherd et al., 2007). A small portion of the vegetation on site has obvious signs of disturbance but overall the condition of the vegetation is classified as very good (Keighery, 1994). Weed species Cenchrus ciliaris (buffel grass) is noted within the application area (Biota, 2008). This mostly occurs within the previously cleared areas for access tracks, and makes up 9% of that application area.

Three vegetation types occur within the area:
* 10% of the application area contains vegetation associated with creeklines, including Eucalyptus victrix low woodland over Acacia trachycarpa

- * 86% of the application area contains vegetation associated with stony low hills and undulating plains
- * 4% of the application area in the north-western corner contains vegetation on the stoney foothills of a tall range of hills (Biota, 2008).

There are a number of weeds (including buffel grass) common to the Pilbara region which could be introduced to surrounding areas as a result of this proposal. Strategies to reduce the risk of introduction and spread of weeds should be undertaken. Top soil will be stockpiled for rehabilitation purposes (Biota, 2008).

Given the high extent of vegetation remaining, the application area is unlikely to represent an area of higher biodiversity value when compared to representative vegetation in a local and regional context. Weed conditions will be placed on the permit to minimise spread, especially of buffel grass, as well as conditions to avoid and minimise clearing.

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

Methodology Biota (2008)
 Keighery (1994)
 Shepherd et al. (2007)
 GIS Database:
 - DEFL, SAC Bio Dataset 201108
 - TEC Database, SAC Bio Dataset 201108
 - Roebourne 1.4m Orthomosaic - Landgate 2000

(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**
 Fauna habitats within the proposed area to be cleared are well represented elsewhere within the local and regional area. The area to be cleared does not represent a fauna corridor and therefore the clearing will not remove an ecological linkage that is necessary for the maintenance of fauna. There are no known records of rare fauna within the local area (20km radius) of the application area and none were seen during survey (Biota, 2008). No landforms or vegetation types within the application area represent core habitat for any species of conservation significance (Biota, 2008).

Given the above it is unlikely that the application is at variance to this principle.

Methodology Biota (2008)
 GIS Database:
 - Threatened Fauna, SAC Bio Dataset 201108
 - Roebourne 1.4m ORTHOMOSAIC - landgate 2000
 - Topographic contours statewide - DOLA and ARMY 12/09/02

(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**
 There are no known occurrences of rare flora species within the local area (20km radius). No flora species of conservation significance were observed during survey (Biota, 2008). Given this, it is unlikely that the application is at variance to this principle.

Methodology Biota (2008)
 GIS Database:
 - DEFL, SAC Bio Dataset 201108
 - Roebourne 1.4m ORTHOMOSAIC - Landgate 2000

(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 within the local area (20km radius) of the application area. Therefore, it is unlikely that the proposal is at variance to this principle.

Methodology GIS Database:
 - TEC Database, SAC Bio Dataset 201108

(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 likely to be at variance to this Principle

There is approximately 99.95% of the pre-European vegetation remaining within the Pilbara IBRA bioregion (Shepherd et al., 2007). The Beard Vegetation Association 152 and the Shire of Roebourne have 100% and 98.69% pre-European vegetation remaining respectively (Shepherd et al., 2007).

Given the high vegetation representation within the local and regional area, it is not considered to be a significant remnant of native vegetation within an extensively cleared area.

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

Methodology Shepherd et al. (2007)

GIS Database:

- Interim Biogeographic Regionalisation of Australia
- Interim Biogeographic Regionalisation of Australia (subregions) - EA 18/10/00
- Pre European Vegetation - DA 01/01

(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 may be at variance to this Principle

A tributary of the Harding River runs through application area. The vegetation around creeklines consists of Eucalyptus victrix low woodland over Acacia trachycarpa. The understorey has been extensively invaded by weeds such as Buffel grass (Biota, 2008). The creeklines have been previously disturbed by access tracks in some sections (Biota, 2008).

The increase in people visiting the mining camp and consequently the creeklines, may promote the spread of weeds to the river and impact of the functioning of the watercourses.

Given the application area encompasses numerous creeklines the application may be at variance to this principle.

Methodology DoW (2005)

Biota (2008)

GIS Database:

- Hydrology - linear (hierarchy) - DoW 13/7/06
- Roebourne 1.4m ORTHOMOSIAC - Landgate 2000

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

Comments Proposal may be at variance to this Principle

The application area consists of Ruth Land System which comprises of hills and stony plains, dissected by creeklines (Biota, 2008). Soils are brown loams along with significant areas of earthy loam soils and chief soils are deep cracking clays (Northcote et al., 1960-68). These soil types are not overly susceptible to erosion following disturbance (Biota, 2008). To ensure sedimentary runoff is minimal during works, clearing should occur after the wet season.

Rainfall and evapotranspiration rates for the local area (20km radius) are 300mm and 400mm respectively, suggesting that there is a low risk of water logging within the proposed clearing area.

Given the above and the application size (65ha), the application may cause appreciable land degradation in the form of soil erosion and weed encroachment. Dust suppression will be carried out on stockpiles (Biota, 2008) and wind erosion and weed conditions will be placed on the permit.

Methodology Northcote et al. (1960-68)

Biota (2008)

GIS Database:

- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- Evapotranspiration Isopleths - WRC 29/09/98

(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 is one conservation area 18km south of the application area. It is Millstream Chichester National Park. Given the distance from the application area to the conservation area it is unlikely that the proposal is at

variance to this principle.

Methodology GIS Database:
- CALM Managed Lands and Waters - CALM 01/06/05

(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 may be at variance to this Principle

The application clearing of 65 hectares of vegetation is unlikely to have a significant impact on groundwater in the proposed clearing area given the average annual rainfall of the site is 300mm, with most rainfall occurring over the summer months (BoM, 2008), and an evapotranspiration rate of 400mm per annum. Groundwater salinity is rated as 500 - 1000mg/L which is marginal.

Furthermore, the majority of existing vegetation is shallow rooted grass and shrub species and thus the proposed clearing is unlikely to have a significant impact on the level or quality of the groundwater table.

The application contains creeklines, which consist of riparian vegetation. The removal of this vegetation may increase sedimentation from possible erosion and reduce the quality of water.

Given the above, the application may be at variance to this principle. Conditions will be placed on the permit to implement weed control in these areas.

Methodology BoM (2008)
DoW (2005)
Northcote et al. (1960-68)
GIS Database:
- Hydrogeology, statewide - DOW 13/07/06
- Groundwater Salinity Statewide DoW 13/07/06
- Hydrography, linear - DOW 13/7/06

(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 limited amount of clearing proposed (65 hectares) in comparison with the extent of the Port Hedland coastal catchment area (which is approximately 744,300 hectares) is unlikely to result in an increase in peak flood height or flood peak duration.

Clearing of 65ha is unlikely to have a significant impact on quality or quantity of groundwater given the mean annual rainfall for the site is 300mm with most rainfall occurring around the summer months, and an evapotranspiration rate of 400mm per annum (BoM, 2008).

Given the above, it is unlikely that the proposed clearing will cause or exacerbate the incidence or intensity of flooding.

Methodology BOM (2008)
GIS Layers:
- Hydrogeology, statewide - DOW 13/07/06

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

Comments

The proposed area lies within The Pilbara Groundwater Area as proclaimed under the Rights in Water and Irrigation Act 1914. Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water. The applicant does not require the use of groundwater but are in negotiations with the Water Corporation to use water from the Harding Dam (DEC TRIM Ref: DOC68852).

Planning approval is required from the Shire of Roebourne (DEC TRIM REF: DOC69115).

Methodology

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing may be at variance to Principle (f), (g), and (i) and is not likely to be at variance to the remaining clearing Principles.

5. References

- Biota (2008). Harding Dam Rail Construction Camp: Native Vegetation Clearing Permit Report. Prepared for Robe River Mining Company Pty Ltd. Biota Environmental Sciences, June 2008.
- BoM 2008. Bureau of Meteorology - Rainfall of Newman 2008. Sited on 27/05/2008 at <http://www.bom.gov.au/climate/dwo/IDCJDW6096.latest.shtml>
- DoW (2005). Department of Environment (2005) Water Quality Protection Note: Vegetation Buffers to Sensitive Water
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Shepherd, D.P. (2007). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.

6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)

