



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2877/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Robe River Iron Associates

1.3. Property details

Property: Miscellaneous Licence 47/75
Miscellaneous Licence 47/321
Local Government Area: Shire of Ashburton
Colloquial name: Wildflower Construction Camp

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
26		Mechanical Removal	Construction Camp and Associated Infrastructure

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

Vegetation within the application area has been mapped at a 1:250,000 scale as the following Beard vegetation association: (Shepherd et al., 2001; GIS Database).

- **18:** Low woodland; mulga (*Acacia aneura*).

Biota Environmental Sciences were commissioned by Robe River Iron Associates to undertake a flora and vegetation assessment for the application area. Biota Environmental Sciences (2008) carried out the survey on 21 March 2008 and have described the vegetation units that were identified within the application area.

- **EgAdAsbAbTsp:** *Eucalyptus gamophylla* low open mallee woodland over *Acacia dictyophleba*, *A. steedmanii* subsp. *borealis*, *A. bivenosa* tall open shrubland over *Triodia* sp. Shovelanna Hill hummock grassland;

- **AdAsbTp:** *Acacia dictyophleba* (*A. steedmanii* subsp. *borealis*) tall open shrubland over *Triodia pungens* hummock grassland; and

- **AanTm / AanTp / AanG:** *Acacia aneura* tall open shrubland to low open forest over *Triodia melvillei* / *T. pungens* open hummock grassland or mixed open tussock grassland;

These three vegetation types were mapped as a mosaic, as they occur in small intermingled patches which are difficult to discriminate using aerial photography (Biota Environmental Sciences, 2008). The clayey plains in the southern half of the study area supported tall open shrublands to low open forests of Mulga (*Acacia aneura*) over a patchy understorey dominated by variable amounts of either the hummock grasses *Triodia melvillei* or *T. pungens*, or the tussock grasses *Chrysopogon fallax*, *Digitaria brownii* and/or *Themeda triandra*. Areas bare of perennial ground cover would probably support numerous annual herbs and grasses in

Clearing Description

Robe River Iron Associates has applied to clear up to 26 hectares of native vegetation within an application area of approximately 140 hectares for the purpose of establishing the Wildflower Construction Camp and Village which forms part for the 320 Rail Project. Vegetation clearing is required for the placement of buildings and associated infrastructure.

Vegetation will be cleared by a bulldozer and grader with its blade down for large areas, and a front end loader and bobcat will be used for smaller areas (Robe River Iron Associates, 2008). The vegetation and topsoil will be collected and stockpiled for use in future rehabilitation (Robe River Iron Associates, 2008).

Vegetation Condition

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

to

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Comment

A site visit to the application area was undertaken by the Assessing Officer on 4 September 2008. The Assessing Officer concurs with the vegetation units and vegetation conditions described by Biota Environmental Sciences (2008).

good seasons, including species such as *Aristida contorta*, *Enneapogon polyphyllus* and *Sclerolaena cornishiana*. Other associated species recorded from this vegetation included *Acacia pruinocarpa*, *Alternanthera nana*, *Cassia helmsii*, *Cheilanthes sieberi* subsp. *sieberi*, *Enchylaena tomentosa* var. *tomentosa*, *Eremophila lanceolata*, *Goodenia prostrata*, *Rhagodia eremaea* and *Sida platycalyx*.

In addition, approximately 10% of the application area comprised of areas that had been cleared for a previous accommodation village and associated infrastructure, including access tracks and roads. The village and infrastructure areas have been ripped and support mixed open shrublands dominated by *Petalostylis labicheoides* over scattered grasses. Biota Environmental Sciences (2008) has described this area as 'Disturbed areas'.

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 Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion which encompasses an area of 17,804,164 hectares (GIS Database; Shepherd et al., 2001). The Hamersley subregion is characterised by sedimentary ranges and plateaux, dissected gorges, low Mulga woodlands over bunch grasses in valley floors and *Eucalyptus* woodlands over *Triodia* spp. on skeletal soils of the ranges (Kendrick, 2001). The mountain tops, gorges and upper slopes throughout the subregion provide refuge from fire for a large number of restricted flora species and native fauna species and the extensive ranges comprise of a high diversity of *Acacia*, *Triodia*, *Ptilotus*, *Corymbia* and *Sida* species (Kendrick, 2001).

The vegetation within the application area consists of Beard Vegetation Association 18 which is common and widespread throughout the Pilbara region, with approximately 100% of the pre-European vegetation extent remaining (Shepherd et al., 2001; GIS Database).

Biota Environmental Sciences (2008) identified five vegetation types (**EgAdAsbAbTsp**s, **AdAsbTp**, **AanTm**, **AanTp** and **Aan/G**) within the Wildflower Construction Camp application area, and mapped approximately 10% of the application area as 'Disturbed areas' which had been historically cleared for a previous accommodation village and associated infrastructure, including access tracks and roads (Biota Environmental Sciences, 2008). Biota Environmental Sciences (2008) consider the vegetation types within the application area to be typical of such habitats (stony and clayey plains) in the locality.

The five vegetation types identified within the application area constitute two broad terrestrial fauna habitat types. The two habitats are considered widespread and abundant in the locality (Biota Environmental Sciences, 2008). While some fauna species may utilise the habitats within the application area, neither the landforms nor vegetation types represent core habitat for any fauna species of conservation significance (Biota Environmental Sciences, 2008). During a site visit to the application area, the Assessing Officer observed that the diversity of landforms is low in terms of ranges, ridges, outcrops, or caves suitable to provide habitat for fauna.

The vegetation types within the application area appear typical of such communities across the Hamersley subregion and do not comprise of any Threatened Ecological Communities or Priority Ecological Communities (Biota Environmental Sciences, 2008).

A total of 138 native flora species, from 79 genera and belonging to 30 families were identified within the application area (Biota Environmental Sciences, 2008). The Assessing Officer notes that no Declared Rare Flora or Priority flora species were recorded within the application area (Biota Environmental Sciences, 2008). Biota Environmental Sciences (2008) considers that the total number of native species recorded within the application area is within the expected range for a survey area of this size in the locality, and is not considered to represent an area of high species richness (Biota Environmental Sciences, 2008).

Five introduced species (weeds), *Melinis repens* (Natal Redtop), *Cenchrus ciliaris* (Buffel Grass), *Malvastrum americanum* (Spiked Malvastrum), *Bidens bipinnata* (Bipinnate Beggartick) and *Portulaca oleracea* (Purslane), were recorded within the application area (Biota Environmental Sciences, 2008). Weeds have the potential to adversely impact on the diversity within the application areas as they compete for resources with native flora species. The disturbance of soil may promote weed growth, and there is a risk that the movement of contaminated soil and clearing equipment throughout and between the project areas may cause the spread of weed species.

The application area is located approximately 200 metres south-east of Karijini National Park at its closest point

(GIS Database). Given the close proximity of the application area to Karijini National Park, it is considered that the control of *Melinis repens* is a significant issue for the site (Department of Environment and Conservation, 2009). The Assessing Officer recommends that should the permit be granted, conditions be imposed on the permit for the purpose of weed management.

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

Methodology Biota Environmental Sciences (2008)
Department of Environment and Conservation (2009)
Kendrick (2001)
Shepherd et al. (2001)
GIS Database:
- CALM Managed Lands and Waters
- Clearing Instruments
- Interim Biogeographic Regionalisation of Australia
- Interim Biogeographic Regionalisation of Australia (subregions)
- Pre-European Vegetation

(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**
A fauna habitat assessment of the application area was undertaken in conjunction with the flora and vegetation survey by Biota Environmental Sciences on 21 March 2008 (Biota Environmental Sciences, 2008). In order to identify any significant fauna habitat that may potentially occur within the application area, Biota Environmental Sciences carried out a search of the Western Australian Museum Faunabase, Department of Environment and Conservation Threatened Fauna database, *Environmental Protection and Biodiversity Conservation Act 1999* Protected Matters Database and the Department of Environment and Conservation Pilbara Biological Survey Database to identify Schedule and Priority listed fauna that may occur within a 25 kilometre radius from the application area (Biota Environmental Sciences, 2008).

Based on the results of the database search and field survey the following species of conservation significance may occur within the application area (Biota Environmental Sciences, 2008): Night Parrot (*Pezoporus occidentalis*), Northern Quoll (*Dasyurus hallucatus*), Orange Leaf-nosed Bat (*Rhynchonictes aurantius*), Pilbara Olive Python (*Liasis olivaceus barroni*), Bilby (*Macrotis lagotis*) and Western Pebble-mound Mouse (*Pseudomys chapmani*).

Biota Environmental Sciences (2008) identified two primary fauna habitats within the application area and these were based on the vegetation types and landforms that were identified throughout the application area (Biota Environmental Sciences, 2008). Biota Environmental Sciences (2008) have described the fauna habitat type as:

1. **Mixed Acacia tall open shrubland over *Triodia* hummock grassland on stony plains with a loamy substrate; and**
2. **Mulga (*Acacia aneura*) low open woodland over *Triodia* hummock grassland and mixed tussock grassland on plains with a clay to clay-loam substrate.**

During a site visit to the application area on 4 September 2008 the Assessing Officer observed that the diversity of landforms within the application area is low in terms of ranges, ridges, outcrops or caves suitable to provide significant habitat for fauna. The vegetation and landforms within the application area were common and consistent to those adjoining the application area. The fauna habitat identified within the application area is considered widespread and abundant throughout the Hamersley subregion (Biota Environmental Sciences, 2008).

Whilst it is possible that some fauna species of conservation significance may utilise the habitat within the application area from time to time, Biota Environmental Sciences (2008) consider neither the landforms nor vegetation types represent core habitat for any of the fauna species of conservation significance listed above.

The vegetation communities and landforms that have been identified within the application area are unlikely to be considered as necessary for the on-going maintenance of any significant fauna habitat. In addition, it is considered likely that equal or higher quality vegetation and fauna habitats would exist throughout the surrounding area, and Pilbara region.

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

Methodology Biota Environmental Sciences (2008)

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments Proposal may be at variance to this Principle

According to available datasets there are no known records of Declared Rare Flora (DRF) or Priority flora species within the application area (GIS database).

A flora and vegetation assessment of the application area was undertaken by botanists from Biota Environmental Sciences on 21 March 2008 (Biota Environmental Sciences, 2008).

No DRF were recorded within the application area during the survey and none would be expected to occur (Biota Environmental Services, 2008). No Priority Flora species were recorded within the application area during the flora and vegetation assessment (Biota Environmental Sciences, 2008).

Biota Environmental Sciences (2008) report that most of the Priority Flora known from the locality would not be expected to occur within the application area due to an absence of suitable habitat, however, there is a possibility that the Priority 1 *Goodenia lyrata* may occur on the clayey plains in the southern section of the application area. The nearest known population of *Goodenia lyrata* is situated approximately 15 kilometres east, south-east of the application area and is located in the same broad physiographic unit containing the clayey plains of the southern application area (Biota Environmental Sciences, 2008).

Based on the above, the proposed clearing may be at variance to this Principle.

Biota Environmental Sciences (2008) have recommended that should there be any substantial clearing within the southern section of the application area, then systematic searches of the immediate development area should be conducted.

The Assessing Officer recommends that should the permit be granted, conditions be imposed on the permit for the purpose of Priority Flora management in relation to *Goodenia lyrata*.

Methodology Biota Environmental Sciences (2008)
GIS Database:
- Declared Rare and Priority Flora List

(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; Biota Environmental Sciences, 2008). The nearest known TEC is located approximately 23 kilometres south-east of the application area (GIS database). Given the distance between the proposal and the nearest known TEC, the proposed clearing is unlikely to impact on the conservation of that TEC.

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

Methodology Biota Environmental Sciences (2008)
GIS Database:
- Threatened Ecological Communities

(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 clearing application area falls within the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion in which approximately 99.9% of the pre-European vegetation remains (see table) (GIS database; Shepherd et al., 2001).

The vegetation of the clearing application area has been mapped as Beard Vegetation Association 18: Low woodland; Mulga (*Acacia aneura*) (GIS Database, Shepherd et al., 2001). According to Shepherd et al., (2001) approximately 100% of Beard Vegetation Association 18 remains at both the state and bioregional level (see table).

According to the Bioregional Conservation Status of Ecological Vegetation Classes, the conservation status for the Pilbara Bioregion and Beard Vegetation Association 18 is of "Least Concern" (see table) (Department of Natural Resources and Environment, 2002).

Only a small percentage of Beard Vegetation Association 18 is protected within conservation reserves, however, the bioregion remains largely uncleared. As a result, the conservation of the vegetation associations within the bioregion is not likely to be impacted on by this proposal.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-european % in IUCN Class I-IV Reserves
IBRA Bioregion – Pilbara	17,804,164	17,794,651	~99.9	Least Concern	6.3
Beard veg assoc. – State					
18	19,892,437	19,890,348	~100	Least Concern	2.1
Beard veg assoc. – Bioregion					
18	676,541	676,541	~100	Least Concern	16.8

* Shepherd et al. (2001)

** Department of Natural Resources and Environment (2002)

The vegetation under application is not a remnant of vegetation in an area that has been extensively cleared.

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

Methodology Department of Natural Resources and Environment (2002)
Shepherd et al. (2001)
GIS Database:
- Interim Biogeographic Regionalisation of Australia (subregions)
- 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 not likely to be at variance to this Principle**
There are no permanent wetlands or watercourses within the application area (Biota Environmental Sciences, 2008; GIS Database). The Assessing Officer attended a site visit to the application area on 4 September 2008 and it was evident that the vegetation was not growing in association with a watercourse or wetland. This assessment is supported by Biota Environmental Sciences (2008).

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

Methodology Biota Environmental Sciences (2008)
GIS Database:
- Hydrography, linear_1

(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**
According to the Department of Agriculture in Technical Bulletin No 62 "An inventory and condition survey of Pilbara region, Western Australia" (Van Vreeswyk et al., 2004), the application area comprises of the Boolgeeda and Wannamunna Land Systems.

- The Boolgeeda Land System is characterised by stony lower slopes and wide, low relief plains, below large range hill systems that support spinifex grasslands and Mulga shrublands (Van Vreeswyk et al., 2004). Approximately 79.6 hectares across the northern half of the application area comprises of the Boolgeeda Land System (Biota Environmental Sciences, 2008). This area comprises of the 'stony lower plains' landform unit which is described as typically supporting hummock grasslands of hard spinifex (*Triodia wiseana* or *T. lanigera*) or soft spinifex (*T. pungens*), often with moderately close tall shrublands or *Acacia aneura* and other acacias (Van Vreeswyk et al., 2004; Biota Environmental Sciences, 2008). Van Vreeswyk et al. (2004) report that the Boolgeeda Land System is not susceptible to erosion.
- The Wannamunna Land System is characterised by hardpan plains and internal drainage tracts supporting mulga shrublands and woodlands (and occasionally eucalypt woodlands) (Van Vreeswyk et al., 2004). Approximately 65.1 hectares across the southern half of the application area comprises of the Wannamunna Land System (Biota Environmental Sciences, 2008). Biota Environmental Sciences (2008) report that this area comprises of the 'hardpan plains' with scattered 'groves' landform units (Van Vreeswyk et al., 2004). The soil types within the 'hardpan plains' landform unit comprises of red-brown hardpan shallow loams and some red shallow loams, whilst soil types within

the 'groves' landform unit comprises of red deep duplex soils, red loamy earths and mulching cracking clays (Van Vreeswyk et al., 2004). Van Vreeswyk et al., (2004) report that the Wannamunna Land System generally has low susceptibility to erosion, however, the loamy soils which have been identified within the southern portion of application area are considered to be moderately susceptible to erosion due to the absence of hard pebble or ironstone mantles (Biota Environmental Sciences, 2008).

During a site visit to the application area on 4 September 2008 the Assessing Officer observed several disturbed areas within the central and northern portions of the application area. These areas had historically been cleared and were used for a previous accommodation village and associated infrastructure, including access tracks and roads (Biota Environmental Sciences, 2008). Biota Environmental Sciences (2008) have described these areas as 'Disturbed areas' and estimate that they account for approximately 10% of the application area. Although these areas are predominately un-vegetated as a result of the previous disturbances that have occurred, no water or wind erosion was observed.

Based on the landform units and soil types, it is considered that there is a moderate risk of erosion occurring within the southern half of the application area during clearing, and for periods during which the cleared areas remain exposed.

Based on the above, the proposed clearing may be at variance to this Principle.

To minimise the risk of erosion occurring, the Assessing Officer recommends that should a permit be issued, conditions be imposed on the permit for the purpose of staged clearing.

The application area is not associated with any low-lying permanently damp wetlands or watercourses (GIS Database). During the site visit to the application area the Assessing Officer observed no signs of water-logging. With the application area experiencing mean annual rainfall of approximately 500 millimetres and mean annual evaporation of approximately 3400 millimetres (GIS Database), it is likely that majority of normal season rainfall would quickly evaporate, or runoff down slope following significant rainfall events. Given the low rainfall to high evaporation rate for the application area, the proposed clearing native vegetation is unlikely to significantly increase water infiltration into the soil which could otherwise alter groundwater levels.

The application area is situated within the Ashburton River catchment which covers a total area of approximately 7,877,743 hectares. Groundwater salinities within the application area and adjoining areas have been recorded in the range of 500 - 1,000 milligrams/Litre Total Dissolved Solids (GIS Database). Given the low rainfall to high evaporation rate for the application area, the proposed clearing of native vegetation is unlikely to significantly increase water infiltration into the soil which could otherwise lead to significant rises to ground water levels. As a result, the proposed clearing is unlikely increase land salinisation either on-site or off-site.

Methodology Biota Environmental Sciences (2008)
Van Vreeswyk et al. (2004)
GIS Database:
- Evaporation Isopleths
- Groundwater Salinity, Statewide
- Hydrography, linear_1
- Rainfall, Mean Annual
- 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 application area is not located within a Department of Environment and Conservation (DEC) managed conservation area (GIS Database). However, Karijini National Park is situated approximately 200 metres north-west of the application area at its closest point (GIS Database). Biota Environmental Sciences (2008) advised that once the Western Australian pastoral exclusion process is enacted in 2015, the addition of a section of Juna Downs Station to the Karijini National Park will mean that the location of the Wildflower Camp will effectively be within the reserve itself. The DEC has confirmed that the Wildflower Construction Camp is not located within the 2015 Western Australian pastoral exclusion area as indicated by Biota Environmental Sciences (2008) (Department of Environment and Conservation, 2009).

The Environmental Management Branch at the DEC has provided the following comments in relation to the location of the proposal to Karijini National Park:

"DEC is satisfied that there are no significant conservation values at risk due to this proposal. However, given the close proximity of the camp to Karijini National Park, control of *Melinis repens* (Natal redtop) is a significant issue for this site".

The Assessing Officer agrees that the proposed clearing activities are unlikely to compromise the environmental values of Karijini National Park. To minimise the risk of spreading *Melinis repens* within and outside of the

application area, the Assessing Officer recommends, should a permit be issued, that conditions be placed on the permit for weed control and eradication.

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

Methodology Biota Environmental Sciences (2008)
Department of Environment and Conservation (2009)
GIS Database:
- CALM Managed Lands and Waters

(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

A site visit was undertaken to the application area by the Assessing Officer on 4 September 2008 and it was evident that there are no permanent wetlands or watercourses within or adjacent to the application area (GIS Database). The proposed clearing is unlikely to cause deterioration in the quality of surface water in the local area (Biota Environmental Sciences, 2008).

The application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The nearest PDWSA is Millstream Water Reserve which is located approximately 105 kilometres north-west of the application area (GIS Database). Given the distance separating the application area and the nearest water supply area, the proposed clearing is unlikely to impact on the water quality of the Millstream Water Reserve.

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

Methodology Biota Environmental Sciences (2008)
GIS Database:
- Hydrography, linear_1
- Public Drinking Water Source Areas (PDWSAs)

(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 application area experiences mean annual rainfall of approximately 500 millimetres, with the majority of rainfall received between December and March, and mean annual evaporation of approximately 3400 millimetres (GIS Database). Local flooding can be expected to occur seasonally in the Pilbara region as a result of heavy rainfall triggered by cyclonic activity and sporadic thunderstorms (Biota Environmental Sciences, 2008).

The application area is located within the Ashburton River Catchment which covers an area of approximately 7,877,743 hectares (GIS Database). It is unlikely that the proposed clearing of 26 hectares for the Wildflower Construction Camp would impact on the drainage patterns for the Fortescue River Catchment or for the local area.

It was evident during a site visit on 4 September 2008 that the application area is located on a gently sloping plain at the southern base of an extensive east-west running range system (GIS Database). The application area and adjoining areas are likely to receive surface water flows which emanate from the range system. The stony plains of the northern section of the Wildflower Construction Camp application area would shed water during heavy rainfall events to the lower-lying clayey plains in the southern section of the application area (Biota Environmental Sciences, 2008). There may be some surface water ponding on these clayey plains after significant rainfall events, however, given the high evaporation rate for the area any excess surface water that may accumulate is only likely to remain for short periods. The proposed clearing would not be expected to exacerbate either the frequency or the intensity of flooding through these areas (Biota Environmental Sciences, 2008).

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

Methodology Biota Environmental Sciences (2008)
GIS Database:
- Evaporation Isopleths
- Hydrographic Catchments
- Rainfall, Mean Annual
- Topographic Contours, Statewide

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

Comments

There is one native title claim over the area under application; (WC96/061) (GIS Database). The claim has been registered with the National Native Title Tribunal on behalf of the claimant group (GIS Database). However, the tenements have 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 is one registered Site of Aboriginal Significance (Site ID: 22) which intercepts the area applied to clear (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. Robe River Iron Associates (2008) have advised that heritage surveys have been undertaken for the application area, however, no heritage sites were identified.

One submission was received in relation to the proposal, however, no objections were raised.

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 Robe River Iron Associates (2008)
GIS Database
- Native Title Claims
- Sites of Aboriginal Significance

4. Assessor's comments

Comment

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

It is recommended that should a permit be granted, conditions be placed on the permit with regards to staged clearing, weed management, priority flora management, retention of topsoil and vegetation, recording areas cleared and reporting against the permit conditions.

5. References

- Biota Environmental Sciences (2008). Wildflower Rail Construction Camp: Native Vegetation Clearing Permit Report. Prepared for Robe River Mining Company Pty Ltd. Prepared by Biota Environmental Sciences. June 2008.
- Department of Environment and Conservation (2009). Biodiversity and conservation advice for land clearing application CPS 2877/1. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Mines and Petroleum (DMP), received 3 February 2009. Environmental Management Branch, Department of Environment and Conservation, 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.
- 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, P. (2001). Pilbara 1 (PIL3 Hamersley Subregion). In a Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, pp 568-580.
- Robe River Iron Associates (2008). Documentation Accompanying Clearing Permit Application for CPS 2877/1, Prepared by Robe River Pty Ltd, December 2008.
- 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.
- Van Vreeswyk A.M.E., Payne A.L., Leighton K.A. and Hennig P. (2004). Technical Bulletin - An inventory and condition survey of rangelands in Pilbara Region, Western Australia, No 92, Department of Agriculture, Government of Western Australia, Perth, 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
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.