



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4654/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Sinosteel Midwest Corporation Limited

1.3. Property details

Property: Mining Lease 70/1012
Local Government Area: Shire of Morawa
Colloquial name: Koolanooka Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.35		Mechanical Removal	Water Bore Drilling

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 16 February 2012

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. The following Beard vegetation association has been mapped within the application area (GIS Database):

693: Mosaic: Low woodland: *Allocasuarina huegeliana* over mallee and *Acacia* scrub / *Allocasuarina campestris* thicket.

A flora and vegetation survey of the application area was conducted by Maia Environmental Consultancy (Maia) between 17 and 26 June 2011. The following two vegetation communities were recorded within the application area (Maia, 2011):

Open Tall Shrubland of *Acacia coolgardiensis* with a Sparse Low Shrubland of *Dodonea adenophora* and Scattered Low Trees of *Eucalyptus loxophleba* subsp. *supralavis*; and

Open Tall Shrubland of *Acacia coolgardiensis* and *Acacia acuminata* with a Sparse Low Shrubland of *Aluta aspera* subsp. *hesperia* and *Baeckea* sp. *Perenjori*.

Clearing Description

Sinosteel Midwest Corporation has applied to clear up to 0.35 hectares of native vegetation within an application area of approximately 1.9 hectares (GIS Database). The application area is located approximately 20 kilometres east of Morawa (GIS Database).

The proposed clearing is for the purpose of constructing three water bores and an associated access track (Maia, 2011).

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

The vegetation condition was assessed by botanists from Maia.

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 may be at variance to this Principle

A vegetation survey of the application area recorded two vegetation communities within the application area (Maia, 2011). The proposed clearing is within the Koolanooka System Threatened Ecological Community (TEC) (GIS Database). This TEC is restricted to the Koolanooka area, however, the proposed clearing of 0.35 hectares is not expected to have a significant impact upon the TEC.

A flora survey of the application area and three other areas in the Koolanooka Hills locale recorded 103 taxa from 57 genera and 33 families (Maia, 2011). Three of the species recorded within the application area were Priority listed flora; *Lepidosperma* sp. Koolanooka (Priority 1), *Baeckea* sp. Perenjori (Priority 2) and *Persoonia pentasticha* (Priority 3).

Lepidosperma sp. Koolanooka was recorded from three locations totalling 11 plants (Maia, 2011). All 11 plants are proposed to be cleared. This species was recorded from a further 127 locations with an additional 1,499 plants recorded (Maia, 2011). Given the number of individuals recorded outside the application area, the proposed clearing is not likely to impact this species.

Baeckea sp. Perenjori was recorded at 56 locations within the application area (Maia, 2011). There was 436 individuals recorded of which 283 are expected to be disturbed. This plant was recorded at a further 77 locations outside the application area during the flora survey (Maia, 2011), suggesting that this species is not uncommon in the local area. The Western Australian Herbarium (2012) has 19 records of this species ranging from Wubin to Morawa. Whilst the proposed clearing will result in the removal of 283 individuals, it is not expected to have a significant impact on this species.

There were two individuals of *Persoonia pentasticha* recorded from one location within the application area (Maia, 2011). The removal of these two individuals will not have a significant impact on this species.

Given the small scale of the proposed clearing (0.35 hectares), there is not likely to be any significant impacts upon faunal diversity within the local area.

The proposed water bore locations have been situated in areas of previous disturbance where possible in order to minimise the amount of vegetation clearing.

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

Methodology Maia (2011)
Western Australian Herbarium (2012)
GIS Database:
- Threatened Ecological Sites Buffered

(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**
No fauna surveys have been undertaken over the application area. There has been a fauna survey undertaken at the Koolanooka Hills area by ATA Environmental (2004). This survey identified the Malleefowl (*Leipoa ocellata* – Schedule 1; Vulnerable), Gilled Slender Blue-tongue (*Cyclodomorphus branchialis* – Schedule 1) and the Western Spiny-tailed Skink (*Egernia stokesii badia* – Schedule 1; Endangered) as occurring in the Koolanooka Hills area (ATA Environmental, 2004). Whilst these species have the potential to utilise the application area, the proposed clearing is not likely to have a significant impact on these species. Given its small scale (0.35 hectares), the proposed clearing is also not likely to have a significant impact on other local fauna species.

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

Methodology ATA Environmental (2004)

(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**
According to available databases, there are no records of any Threatened Flora within the application area (GIS Database). The flora survey did not record any flora listed as Threatened Flora (Maia, 2011).

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

Methodology Maia (2011)
GIS Database:
- Threatened and Priority 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.

Comments **Proposal may be at variance to this Principle**
According to available databases, the application area is located within the 'Plant assemblages of the Koolanooka System Threatened Ecological Community (TEC) (GIS Database). Maia (2011) reports that the application area is entirely within the TEC. According to databases the TEC covers an area of 6,413 hectares (DEC, 2011). However, this TEC is comprised of a number of individual vegetation units across the range that have not been individually mapped, but require consideration (DEC, 2011). Advice from Species and

Communities Branch at DEC (2011) indicates that it is not possible to assess the regional significance of the vegetation within the application area from the structural based vegetation mapping undertaken. It is recommended that regional plot based mapping be undertaken in order to properly assess the potential impacts upon the TEC. The proposed clearing is for the construction of three water bores and associated access track. The water bores and track have been planned in areas of existing disturbance where possible to minimise the amount of vegetation required to be cleared (GIS Database). Whilst it is difficult to assess the potential impacts of the proposed clearing, the clearing of 0.35 hectares within the application area would not be expected to have a significant impact on the TEC.

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

Methodology DEC (2011)
Maia (2011)
GIS Database:
- Perenjori 50cm Orthomosaic
- Threatened Ecological Sites Buffered

(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 application area falls within the Avon Wheatbelt Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 15.17% of the pre-European vegetation remains (see table) (GIS Database; Shepherd, 2009).

The vegetation of the application area has been mapped as Beard vegetation association 693: Mosaic: Low woodland: *Allocasuarina huegeliana* over mallee and *Acacia* scrub / *Allocasuarina campestris* thicket.

According to Shepherd (2009) approximately 71.6% of this Beard vegetation association remains at both a state and bioregional level. The threshold below which species loss appears to accelerate exponentially at an ecosystem level is 30% (Shepherd et al., 2001), which this vegetation association is above. Whilst this vegetation association has over 70% remaining, there is only approximately 3,000 hectares remaining (see table) and it is restricted to the Koolanooka Hills area (GIS Database). There is none of this vegetation association within conservation reserves (Shepherd, 2009).

Whilst the Shire of Morawa remains above the 30% threshold the Avon Wheatbelt Bioregion and Ancient Drainage subregion are both below 20% and have been extensively cleared. Aerial imagery indicates that the local area has been extensively cleared for agriculture and the application area lies within a large remnant of vegetation (over 3,000 hectares) (GIS Database). Whilst the application area is within an area that has been extensively cleared, it is not a significant remnant and the proposed clearing of 0.35 hectares is not likely to have a significant impact on the remnant in which it is located.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% of Pre-European area in IUCN Class I-IV Reserves (and current %)
IBRA Bioregion – Avon Wheatbelt	9,517,109	1,443,690	~15.17	Vulnerable	1.75 (7.76)
IBRA Subregion – Ancient Drainage	6,524,190	1,168,614	~17.91	Vulnerable	1.82 (6.93)
Local Government – Shire of Morawa	351,033	106,147	~30.24	Depleted	0.62 (2)
Local Government – Shire of Perenjori	830,133	483,379	~58.23	Least Concern	0.2 (0.26)
Beard veg assoc. – State					
693	4,396	3,150	~71.6	Least Concern	
Beard veg assoc. – Bioregion					
693	4,396	3,150	~71.6	Least Concern	
Beard veg assoc. – Subregion					
693	4,396	3,150	~71.6	Least Concern	

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

Methodology Department of Natural Resources and the Environment (2002)
Shepherd et al. (2001)
Shepherd (2009)
GIS Database:
- IBRA WA (Regions - Subregions)
- Perenjori 50cm Orthomosaic
- 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 at variance to this Principle

There are no watercourses or wetlands within the application area (GIS Database). The vegetation survey did not record any vegetation growing within or in association with a watercourse (Maia, 2011).

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

Methodology Maia (2011)
GIS Database:
- Hydrography, linear

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

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

The soils within the application area have been described as ranges and their slopes on granites, gneisses, and allied rocks: chief soils seem to be ironstone gravels with earthy and sandy matrices (Northcote et al., 1964; GIS Database). These soil types are said to be moderately permeable and have a low to moderate wind erodability (Schoknecht, 2002). Therefore, the likelihood of erosion during normal rainfall events is low. Given the small scale of the proposed clearing (0.35 hectares), it is not likely to contribute to a rise in groundwater table and salinity levels.

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

Methodology Northcote et al. (1960 - 68)
Schoknecht (2002)
GIS Database:
- Soils, Statewide

(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 closest conservation area to the application area is the ex Kadji Kadji pastoral lease which is located approximately eight kilometres north of the application area (GIS Database). Given the distance to this area and the small scale of the proposed clearing (0.35 hectares), it is not likely that the proposed clearing will impact on this conservation area or any ecological linkages between conservation areas in the local area (GIS Database).

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

Methodology GIS Database:
- DEC Tenure

(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

The application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

There are no watercourses or wetlands within the application area (GIS Database). The average annual rainfall is 400 millimetres and the average annual evaporation rate is 2,800 millimetres (GIS Database). During normal rainfall events it would be expected that any surface water would evaporate quickly.

The groundwater salinity within the application area is between 7,000 and 14,000 milligrams per litre of Total Dissolved Solids (TDS) (GIS Database). This is considered to be saline. Given the small scale of the clearing (0.35 hectares) the proposed clearing is not likely to cause the groundwater quality to deteriorate any further.

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

Methodology GIS Database:
- Evaporation Isopleths
- Hydrography, linear
- 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**
With an average annual rainfall of 400 millimetres and an average annual evaporation rate of 2,800 millimetres there is likely to be little surface flow during normal seasonal rains (GIS Database). Whilst large rainfall events may result in the flooding of the area, the proposed clearing is not likely to lead to an increase in incidence or intensity of flooding.

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

Methodology GIS Database:
- Evaporation Isopleths
- Rainfall, Mean Annual

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

Comments
There is one Native Title claim (WC04/2) over the areas under application (GIS Database). This claim has been registered with the 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 located within the clearing permit 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 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.

The clearing permit was advertised on 19 September 2011 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Registered with the NNTT

4. References

- ATA Environmental (2004) Vegetation and Flora Assessment, Koolanooka. Unpublished report for Midwest Corporation Limited dated March 2004.
- DEC (2011) Advice to assessing officer. Species and Communities Branch, DEC, 1 December 2011.
- 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.
- Maia (2011) Koolanooka Tenements M70/1012, M70/1013 and E70/2433 - Targeted Flora Survey. Unpublished report for Sinosteel Midwest Corporation dated 26 August 2011.
- 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.
- Schoknecht, N. (2002) Soil Groups of Western Australia. A simple guide to the main soils of Western Australia. Resource Management Technical Report 246. Edition 3.
- Shepherd, D.P. (2009) 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.
- 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.
- Western Australian Herbarium (2012) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/>

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DEC), Western Australia
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DoE	Department of Environment (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
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
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:

{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.

