



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4227/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Fortescue Metals Group Limited

1.3. Property details

Property: Miscellaneous Licence 47/293
Local Government Area: Shire of Ashburton
Colloquial name: Solomon Project Preliminary Works

1.4. Application

| | | | |
|--------------------|-----------|--------------------|-------------------------------|
| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
| 16 | | Mechanical Removal | Construction Camp and Offices |

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 17 March 2011

2. Background

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

| Vegetation Description | Clearing Description | Vegetation Condition | Comment |
|---|---|--|---|
| <p>Beard vegetation associations have been mapped at a scale of 1:250,000 for the whole of Western Australia. One Beard vegetation association is located within the application area (Shepherd, 2009):</p> <p>Beard vegetation association 82: Hummock grasslands, low tree steppe; snappy gum over <i>Triodia wiseana</i>.</p> <p>The Solomon Project is currently under formal assessment by the Environmental Protection Authority (EPA). Flora and vegetation surveys have been conducted in association with this assessment which cover the immediate vicinity of the application area. Vegetation mapping for the application area has been extrapolated from these surveys and one vegetation unit has been identified:</p> <p>Low Woodland of <i>Eucalyptus gamophylla</i>, <i>Corymbia deserticola</i> subsp. <i>deserticola</i> and <i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i> to 5 metres over Tall Shrubland of <i>Acacia elachantha</i> (golden hairy variant) to 2.2 metres over Closed Hummock Grassland of <i>Triodia wiseana</i> to 1.4 metres over Low Open Shrubland of <i>Gompholobium karijini</i> to 0.9 metres.</p> | <p>Fortescue Metals Group Limited is proposing to clear up to 16 hectares of native vegetation within an area of 22.2 hectares. The proposed clearing is for a construction camp and offices. The EPA has granted approval for Fortescue to undertake these 'minor or preliminary works' associated with the Solomon Project, consistent with Section 41A(3) of the <i>Environmental Protection Act 1986</i>.</p> | <p>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994)</p> <p>to</p> <p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).</p> | <p>The application area is located approximately 53 kilometres north of Tom Price and 13 kilometres northwest of the Karijini National Park, in the Pilbara region of Western Australia. The vegetation condition was derived by Fortescue Metals Group Limited (2011) from vegetation surveys conducted in association with the current formal assessment being undertaken by the EPA.</p> |

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 occurs within the Hamersley (PIL3) sub-region of the Pilbara bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). This sub-region is characterised by Mulga low woodland over bunch grasses on fine textured soils in valley floors, and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges (CALM, 2002).

The application is to clear 16 hectares of native vegetation in good to excellent condition (Keighery, 1994) for the purpose of a construction camp and offices. The mapped Beard vegetation association within the application area has 100% of its pre-European extent remaining (Shepherd, 2009). The flora and vegetation of the Solomon Project area is typical of the Eastern Pilbara region (Fortescue Metals Group Limited, 2011).

Five Priority Flora species have been recorded within the Solomon Project area (Fortescue Metals Group Limited, 2011):

- *Gompholobium karijini* (DEC Priority 2)
- *Acacia effusa* (DEC Priority 3)
- *Acacia dawsoniana* (DEC Priority 3)
- *Eremophila magnifica* subsp. *magnifica* (DEC Priority 4)
- *Goodenia nuda* (DEC Priority 4).

Although the potential presence of these species within the application area may raise the biodiversity value of the area to be cleared, habitat for these species is well represented locally and regionally. *Gompholobium karijini* has been recorded from 60 sites within the Solomon Project area and as part of the wider assessment of the Solomon Project undertaken by the Environmental Protection Authority (EPA), Fortescue Metals Group Limited have committed to undertaking additional survey work to determine the regional significance of *Gompholobium karijini* (DEC Priority 2) (Fortescue Metals Group Limited, 2011). It is not likely that the removal of 16 hectares of native vegetation for 'minor or preliminary works' associated with the Solomon Project will impact upon the conservation significance of these species.

Vertebrate and invertebrate fauna surveys have been conducted in association with the formal assessment of the Solomon Project conducted by the EPA. Three conservation significant fauna species have been recorded in the wider Solomon Project area (Fortescue Metals Group Limited, 2011) however the application area has been subjected to disturbance due to its proximity to an existing exploration camp and contains no landscape features that are considered to represent significant fauna habitat. Given the abundance of similar habitat available locally and regionally it is not likely that the area to be cleared would provide a significant habitat for these species.

The vegetation of the application area is in good to excellent condition (Keighery, 1994). The application area has been the subject of disturbance due to its proximity to an existing exploration camp, and historic weed invasion, grazing and fire (Fortescue Metals Group Limited, 2011). The implementation of a weed management condition will minimise the risk of the spread of weeds to un-infested areas.

There are no records of Declared Rare Flora, Priority Ecological Communities or Threatened Ecological Communities within the application area (GIS Database) and it is not likely that the area to be cleared represents an area of increased biological diversity.

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

Methodology CALM (2002)
Fortescue Metals Group Limited (2011)
Keighery (1994)
Shepherd (2009)
GIS Database:
- Declared Rare and Priority Flora List
- IBRA WA (Regions – Subregions)
- 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

The application is to clear 16 hectares of native vegetation in good to excellent condition (Keighery, 1994) for the purpose of a construction camp and offices. The mapped Beard vegetation association within the application area has 100% of its pre-European extent remaining (Shepherd, 2009).

Vertebrate and invertebrate fauna surveys have been conducted in association with the formal assessment of the Solomon Project conducted by the EPA. From these surveys five broad fauna habitat types were identified however the application area comprises of 'Spinifex and Grass on Loam' which is not considered to provide significant fauna habitat, and is widespread in the Solomon Project area (Fortescue Metals Group Limited, 2011).

Three conservation significant fauna species have been recorded in the wider Solomon Project area (Fortescue Metals Group Limited, 2011) however the application area has been subjected to disturbance due to its proximity to an existing exploration camp and contains no landscape features that are considered to represent significant fauna habitat. Fauna surveys have been conducted over the Kings and Firetail Mine study areas by Coffey Environments (2008), Ecologia Environment (2010) and Phoenix Environmental Services (2010) which include the area applied to be cleared. These surveys did not identify significant habitat for conservation significant fauna species within the application area (Fortescue Metals Group Limited, 2011) and given the abundance of similar habitat available locally and regionally it is not likely that the area to be cleared

would provide a significant habitat for fauna indigenous to Western Australia.

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

Methodology Fortescue Metals Group Limited (2011)
Keighery (1994)
Shepherd (2009)

(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 GIS databases there are no known records of Declared Rare Flora (DRF) in the local area (20 kilometre radius) (GIS Database).

Flora surveys conducted in association with the formal assessment of the Solomon Project by the EPA did not identify any DRF (Fortescue Metals Group Limited, 2011).

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

Methodology Fortescue Metals Group Limited (2011)
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

The application area falls within the buffer zone of the Themeda Grasslands Threatened Ecological Community (TEC) (GIS Database). This TEC occurs on cracking clays and consists of grassland plains dominated by the perennial Themeda (kangaroo grass) and many annual herbs and grasses. Flora surveys conducted in association with the formal assessment of the Solomon Project by the EPA did not identify any vegetation communities described as the Themeda Grasslands TEC (Fortescue Metals Group Limited, 2011).

The nearest known occurrence of this TEC is approximately 16 kilometres south-east of the application area (GIS Database).

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

Methodology Fortescue Metals Group Limited (2011)
GIS Database:
- 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 Pilbara IBRA bioregion (GIS Database). Shepherd (2009) reports that approximately 99.9% of the pre-European vegetation still exists in this bioregion.

| | Pre-European area (ha)* | Current extent (ha)* | Remaining %* | Conservation Status** | Pre-European % in IUCN Class I-IV Reserves |
|--|-------------------------|----------------------|--------------|-----------------------|--|
| IBRA Bioregion - Pilbara | 17,804,193 | 17,785,001 | ~99.9 | Least Concern | ~8.3 |
| Beard vegetation association - State | | | | | |
| 82 | 2,565,901 | 2,565,901 | ~100 | Least Concern | ~10.24 |
| Beard vegetation association - Bioregion | | | | | |
| 82 | 2,563,583 | 2,563,583 | ~100 | Least Concern | ~10.25 |

* Shepherd (2009)

** Department of Natural Resources and Environment (2002)

Beard vegetation association 82 retains approximately 100% of its pre-European extent which is more than the 30% threshold level recommended in the National Objectives Targets for Biodiversity Conservation below which, species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000).

Given that the vegetation is well represented locally and regionally the vegetation proposed to be cleared is not likely to be significant as a remnant in a highly cleared landscape.

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

Methodology Department of Natural Resources and Environment (2002)
EPA (2000)
Shepherd (2009)
GIS Database:
- IBRA WA (Regions – Subregions)

(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 at variance to this Principle

There are no permanent watercourses or wetlands located within the application area however there are several minor ephemeral drainage lines (GIS Database) which intersect the application area.

Given that the application area intersects minor ephemeral drainage lines part of the vegetation under application is considered to be growing in an environment associated with a watercourse. However, ephemeral drainage lines are common throughout the Pilbara landscape and it is unlikely that the clearing of vegetation from these areas will have any significant environmental impacts in a local or regional context.

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

Methodology 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 application area is located within the Platform land system (GIS Database). The Platform land system is described as dissected slopes and raised plains supporting hard spinifex grasslands. This system is not susceptible to erosion (Van Vreeswyk et al., 2004).

Given the nature of the clearing application for the purpose of a construction camp and offices, localised land degradation may occur during the construction period however these impacts are likely to be short term. Considering the low erosion risk associated with the land system it is not likely that the proposed clearing will cause appreciable land degradation.

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

Methodology Van Vreeswyk et al. (2004)
GIS Database:
- 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 located approximately 13 kilometres northwest of the Karijini National Park. There are no other areas of conservation significance located within the local area (20 kilometre radius) (GIS Database).

Given the distance to the nearest area of conservation significance it is not likely that the clearing of 16 hectares of native vegetation will negatively impact upon the environmental values of the Karijini National Park.

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 area under application is not located within a Public Drinking Water Source Area. The Pilbara is an arid environment. The drainage lines which cross the area under application are ephemeral and surface water runoff is only likely to occur during and immediately following significant rainfall events. Groundwater within the application area has low salinity levels of between 500 to 1000 milligrams per litre Total Dissolved Solids (TDS) (GIS Database).

Considering the above it is not likely that the removal of native vegetation will cause deterioration in the quality of surface or underground water.

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

Methodology GIS Database:
- Groundwater Salinity
- Hydrography, linear
- Public Drinking Water Source Areas

(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

There are no permanent watercourses mapped within the areas under application however there are several minor ephemeral drainage lines which cross the area under application (GIS Database).

Local flooding occurs seasonally in the Pilbara region as a result of cyclonic activity and sporadic thunderstorms and it is likely that the drainage lines within the area under application would experience seasonal flooding during high rainfall periods. However, it is not likely that the clearing of 16 hectares of native vegetation will increase the incidence or intensity of this flooding.

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

Methodology GIS Database:
- Hydrography, linear

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

There are no Native Title Claims over the area under application (GIS Database). 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 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 GIS Database
- Aboriginal Sites of Significance
- Native Title NNTT

4. References

- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 1 (PIL1 - Chichester subregion) Department of Conservation and Land Management, 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.
- EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority, Western Australia.
- Fortescue Metals Group Limited (2011) Native Vegetation Clearing Permit Application – Solomon Project Preliminary Works.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- 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.
- 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
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.