Department of Environment and Conservation

# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

**Permit application No.:** 2814/1

**Permit type:** Purpose Permit

### 1.2. Proponent details

**Proponent's name:** **BHP Billiton Iron Ore Pty Ltd**

### 1.3. Property details

**Property:**

LOT 16 ON PLAN 194288 ( NEWMAN 6753)
LOT 2356 ON PLAN 216724 ( NEWMAN 6753)
LOT 2352 ON PLAN 218837 ( NEWMAN 6753)
LOT 42 ON PLAN 217099 ( NEWMAN 6753)
LOT 19 ON PLAN 48921 ( NEWMAN 6753)
LOT 17 ON PLAN 241430 ( NEWMAN 6753)
LOT 200 ON PLAN 218369 ( NEWMAN 6753)
LOT 205 ON PLAN 216723 ( NEWMAN 6753)
ROAD RESERVE ( NEWMAN 6753)
LOT 2353 ON PLAN 218837 ( NEWMAN 6753)
LOT 2354 ON PLAN 218837 ( NEWMAN 6753)
LOT 2357 ON PLAN 216724 ( NEWMAN 6753)
LOT 1639 ON PLAN 215910 ( NEWMAN 6753)
LOT 1643 ON PLAN 215886 ( NEWMAN 6753)
LOT 2347 ON PLAN 218627 (Lot No. 2347 GUN CLUB NEWMAN 6753)
LOT 139 ON PLAN 218627 (Lot No. 2347 GUN CLUB NEWMAN 6753)
LOT 37 ON PLAN 92399 ( NEWMAN 6753)

**Local Government Area:** Shire Of East Pilbara

**Colloquial name:**

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|---|---|---|---|
| 75 | | Mechanical Removal | Mineral Production |

## 2. Site Information

### 2.1. Existing environment and information

*2.1.1. Description of the native vegetation under application*

| Vegetation Description | Clearing Description | Vegetation Condition | Comment |
|---|---|---|---|
| The vegetation of the application area is broadly mapped as Beard vegetation associations:<br><br>- 18: low woodland; mulga (Acacia aneura);<br><br>- 29: Sparse low woodland; mulga, discontinuous in scattered groups; and<br><br>- 82: Hummock grasslands, low tree steppe; snappy gum over Triodia wiseana (GIS Database).<br><br>A flora survey of the majority of the application | BHP Billiton Iron Ore Pty Ltd have applied to clear up to 75 hectares of native vegetation within a total application area of approximately 595 hectares, to upgrade the existing Newman water supply system to provide an increased water supply to the Newman Hub project at the Mt Whaleback minesite. The proposed clearing is for the purposes of construction and maintenance of a new water supply pipeline, replacement of some sections of an existing pipeline, and the installation or upgrade of tanks, pump stations and | Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994) | The vegetation condition was derived from a vegetation survey conducted by Ecologia (2008b). |

area was conducted by Ecologia environmental consultants between 18 and 23 April 2008 (BHP Billiton, 2008). The plans for the pipeline project were modified after the initial flora survey was conducted, and small additional areas were added onto each end of the proposal. These additional areas, near the Mt Whaleback minesite and the Orebody 23 minesite, were surveyed separately at later dates by Ecologia and BHP Billiton (BHP Billiton, 2008).

The initial survey was conducted using sixty nine 50 metre by 50 metre quadrats, and 12 transects, representing all the vegetation types of the survey area (Ecologia, 2008b).

The vegetation surveys identified eight main vegetation units broadly associated with topographic features:

1. river / creek bank;
2. hill crest;
3. hill midslope;
4. hill footslope;
5. flat/plain;
6. flood plain;
7. gully base;
8. minor drainage channel (Ecologia, 2008b).

Fourteen weed species were recorded during the flora survey: Aerva javanica (Kapok Bush), Bidens bipinnata (Bipinnate Beggartick), Cenchrus ciliaris (Buffel Grass), Centaurium erythraea (Common Centaury), Chloris virgata (Feathertop Rhodes Grass, Windmill Grass), Citrullus colocynthis (Colocynth), Citrullus lanatus (Afghan Melon, Pie Melon, Wild Melon), Conyza bonariensis (Flaxleaf Fleabane), Cynodon dactylon (Couch Grass), Datura leichhardtii, Echinochloa colona (Awnless Barnyard Grass), Malvastrum americanum (Spiked Malvastrum), Portulaca oleracea (Purslane) and Vachellia farnesiana (Mimosa Bush) (Ecologia, 2008b).

Ecologia (2008b) described the vegetation condition within the other associated infrastructure (BHP Billiton, 2008).

Existing tracks and other previously disturbed areas will be utilised wherever possible (BHP Billiton, 2008). All topsoil and vegetation will be stockpiled for later use in rehabilitation. All cleared areas not required for ongoing operations will be rehabilitated at the completion of the construction works (BHP Billiton, 2008).

application area as generaly degraded and disturbed, due to previous disturbance related to existing infrastructure and substantial weed invasion.

## 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 Pilbara and Gascoyne Interim Biogeographic Regionalisation for Australia (IBRA) bioregions (GIS Database).

A flora survey of the majority of the application area conducted by Ecologia in April 2008 recorded 375 taxa from 47 families and 137 genera (Ecologia, 2008b). Ecologia (2008b) considered this to represent a moderate level of diversity, comparable to other recent surveys in surrounding areas. One Priority 3 flora species, Themeda sp. Hamersley Station, was recorded during the survey. No vegetation communities of conservation significance were recorded during the survey (Ecologia, 2008b). The vegetation types found within the application area are well represented in the surrounding region (Ecologia, 2008b; GIS Database).

There has been substantial previous disturbance within the application area for an existing pipeline, railway lines, roads, power lines and other infrastructure (BHP Billiton, 2008; Ecologia, 2008b). These disturbances are likely to have adversely impacted on the biological diversity of the vegetation within the application area.

Fourteen weed species were recorded within the application area (Ecologia, 2008b). Buffel Grass was the dominant species in some areas (Ecologia, 2008b). The presence of introduced flora species is likely to further reduce the biological diversity of the proposed clearing area.

A review of fauna surveys conducted in surrounding areas concluded that the habitat types occurring within the application area are well represented in the Pilbara region, and are not of specific conservation significance (Ecologia, 2008a). Some fauna of conservation significance are known to occur within the application area, but none are restricted to the application area and they are not expected to be impacted by the proposed clearing (Ecologia, 2008a).

The application area is unlikely to represent an area of high biological diversity in comparison to other undisturbed areas. The narrow corridor of proposed clearing in an area that has already been subject to a considerable degree of disturbance is unlikely to significantly impact on the biological diversity of the region.

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

**Methodology**

BHP Billiton (2008).
Ecologia (2008a).
Ecologia (2008b).
GIS Database:
- Interim Biogeographic Regionalisation of Australia
- Pre-European Vegetation - DA 01/01

### (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 review of fauna surveys previously conducted within and around the application area was conducted by Ecologia in June 2008 (Ecologia, 2008a). Based on previous records Ecologia (2008a) concluded that a total of 244 fauna species, including 28 native and six introduced mammal species, 126 bird species, 77 reptile species and seven amphibians, could potentially occur within the application area.

Based on the vegetation associations recorded during the vegetation survey conducted by Ecologia in April 2008, four main fauna habitat types were identified within the application area (Ecologia, 2008b):
1. floodplain;
2. hillslope;
3. drainage line; and
4. flat plain.

The habitat types within the application area are considered to be of relatively low conservation value and are all well represented throughout the surrounding region (Ecologia, 2008b). The narrow, linear nature of the proposed clearing for a pipeline corridor is expected to result in minimal impacts to fauna habitat, as any

displacement of fauna will be localised and suitable habitat is available immediately adjacent to the proposed disturbance footprint (Ecologia 2008a).

Five fauna species of conservation significance were considered likely to occur within the project area, based on known ranges, habitat preferences, and previous sightings in surrounding areas (Ecologia, 2008a). These are:
- Pilbara Olive Python (Liasis olivaceus barroni), listed in the Wildlife Conservation (Specially Protected Fauna) Notice 2008 and is protected under the Wildlife Conservation Act 1950;
- a species of Blind Snake (Ramphotyphlops ganei ), Priority 1 of the Department of Environment and Conservation Priority Fauna List;
- Western Pebble-mound Mouse (Pseudomys chapmani), Priority 4 of the Department of Environment and Conservation Priority Fauna List;
- Australian Bustard (Ardeotis australis), Priority 4 of the Department of Environment and Conservation Priority Fauna List; and
- Rainbow Bee-eater (Merops ornatus), is a species of migratory bird protected under the JAMBA and CAMBA (Japan and China Australia Migratory Bird Agreements) international agreements (Ecologia, 2008a).

None of these species are likely to be specifically dependant on habitats found within the application area. Ecologia (2008a) conclude that the proposed clearing is unlikely to impact on significant habitat for any conservation significant fauna.

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

**Methodology** Ecologia (2008a).
Ecologia (2008b).

### (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**

The nearest known population of Declared Rare Flora is Lepidium catapycnon which is located approximately 5 kilometres north-west of the application area (GIS Database). Searches of Department of Environment and Conservation (DEC) databases and Western Australian Herbarium records indicated that one species of Declared Rare Flora (Lepidium catapycnon) and twelve species of Priority Flora had the potential to occur within the application area (Ecologia, 2008b).

Ecologia conducted a flora survey of the majority of the application area in April 2008 (Ecologia, 2008b). No species of Declared Rare Flora were recorded during the flora survey (Ecologia, 2008b). One species of Priority Flora, Themeda sp. Hamersley Station (Priority 3), was recorded at two locations within the application area (Ecologia, 2008b). The populations consisted of one plant and approximately 200 plants, respectively. The Western Australian Herbarium has eleven other records of this species, occurring throughout the Pilbara (Ecologia, 2008b). Ecologia (2008b) report that the habitat for this species is widespread in the area and consider that there are likely to be more populations of this species outside the application area.

No species of Declared Rare or Priority Flora were recorded during the surveys of the additional areas that were not included in the original survey (BHP Billiton, 2008).

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

**Methodology** BHP Billiton (2008).
Ecologia (2008b).
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). The nearest known TEC is the Ethel Gorge aquifer stygobiont community which is located approximately 150 metres from the northern end of the proposed pipeline corridor (GIS Database). Groundwater drawdown is listed as a threatening process for the Ethel Gorge stygofauna (CALM, 2002), however, the proposed clearing for a pipeline corridor is not expected to have any effect on groundwater levels.

Ecologia (2008b) reported that no TEC's were identified during the flora survey of the application area.

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

**Methodology** CALM (2002).
Ecologia (2006a).

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 application area falls partly within the IBRA Pilbara Bioregion and partly within the IBRA Gascoyne Bioregion (GIS Database). Shepherd et al. (2001) report that approximately 100% of the pre-European vegetation still exists in these two Bioregions. The vegetation in the application area is broadly mapped as Beard Vegetation Associations 18: low woodland; mulga (Acacia aneura); 29: Sparse low woodland; mulga, discontinuous in scattered groups; and 82: Hummock grasslands, low tree steppe; snappy gum over Triodia wiseana (GIS Database). According to Shepherd et al., (2001) there is approximately 100% of these vegetation types remaining.

Although several large scale mining operations are located within close proximity to the application area (BHP Billiton, 2008; GIS Database), on a broader scale the surrounding region has not been extensively cleared. Hence the area applied to clear is not considered to represent a significant remnant of native vegetation in an area that has been extensively cleared.

| | Pre-European area (ha)* | Current extent (ha)* | Remaining %* |
|---|---|---|---|
| Bioregion | | | |
| Gascoyne | 18,075,253 | 18,075,253 | 100 |
| IBRA Bioregion | | | |
| Pilbara | 17,804,164 | 17,794,164 | 99.9 |
| Beard vegetation associations | | | |
| WA | | | |
| 18 | 19,892,437 | 19,890,348 | 100 |
| 29 | 7,904,064 | 7,904,064 | 100 |
| 82 | 2,565,930 | 2,565,930 | 100 |
| Beard vegetation associations | | | |
| Gascoyne Bioregion | | | |
| 18 | 3,273,632 | 3,273,632 | 100 |
| 29 | 3,802,497 | 3,802,497 | 100 |
| 82 | 2,320 | 2,320 | 100 |
| Beard vegetation associations | | | |
| Pilbara Bioregion | | | |
| 18 | 676,561 | 676,561 | 100 |
| 29 | 1,133,228 | 1,133,228 | 100 |
| 82 | 2,563,610 | 2,563,610 | 100 |

* Shepherd et al. (2001), updated 2005
** Department of Natural Resources and Environment (2002)

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

**Methodology**

BHP Billiton (2008).
Department of Natural Resources and Environment (2002).
Shepherd et al. (2001).
GIS Database:
- Interim Biogeographic Regionalisation of Australia
- Newman 1.4m Orthomosaic - Landgate 2003
- 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 at variance to this Principle**

The proposed pipeline corridor crosses the Fortescue River, Homestead Creek and Whaleback Creek, and the western end of the application area runs adjacent to Whaleback Creek (BHP Billiton, 2008; GIS Database). These watercourses are dry for most of the year, only flowing briefly following significant rainfall (BHP Billiton, 2008).

Riparian vegetation occurs along these watercourses, consisting of moderately dense Eucalyptus camaldulensis and E. victrix trees over mixed Acacia species, sedges and grasses (Ecologia, 2008b). Eucalypts typically line the banks of these drainage lines and are often found growing within the river bed itself. E. camandulensis and E. victrix are groundwater dependant vegetation, and survive through the dry winter, by

obtaining water from groundwater sources (Ecologia, 2008b). The proposed native vegetation clearing for the pipeline construction is unlikely to have any impacts on groundwater.

As there are watercourses within the application area, the proposal is at variance to this principle. However, the watercourses will only be directly impacted where the pipeline corridor crosses the watercourse. The clearing corridor at each creek crossing will be limited to approximately 3.5 metres wide, and hence the proposed clearing will only impact on very small areas of riparian vegetation. Ecologia (2008b) report that the riparian vegetation association to be impacted by the proposed clearing is well represented and widespread in the Pilbara.

The proponent has been granted a Permit to Obstruct or Interfere with Bed and Banks by the Department of Water at the locations where the pipeline crosses these watercourses (BHP Billiton, 2008; Department of Water, 2008).

The impacts of the proposed clearing on the watercourses and their associated riparian vegetation are likely to be minimal.

**Methodology** BHP Billiton (2008).
Department of Water (2008).
Ecologia (2008b).
GIS Database:
- Hydrography, linear
- Geodata, Lakes
- Rivers

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

**Comments**

**Proposal may be at variance to this Principle**

The application area falls predominantly within the Elimunna Land System, with small areas falling within the Newman, Rocklea, River, Spearhole, McKay and Washplain Land Systems (GIS Database).

The Elimunna Land System consists of hills and low rises with stony soils on shallow red loams; groves land unit on red loamy earth soils; and drainage floors with self mulching cracking clay soils. The Elimunna Land System is reasonably resistant to soil erosion, however soil disturbance or altered water flows may cause localised soil erosion (Van Vreeswyk et al., 2004).

The Newman Land System consists of jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands. This land system is not prone to erosion (Van Vreeswyk et al., 2004).

The Rocklea Land System consists of basalt hills, plateaux, lower slopes and minor stony plains. This land system has a very low erosion risk under pastoral use, however, vegetation clearing may create an accelerated risk of erosion in drainage lines and channels (Van Vreeswyk et al., 2004).

The River Land System consists of flood plains and major rivers supporting eucalypt woodlands, tussock grasslands and soft spinifex grasslands. This land system is susceptible to erosion if vegetation is removed (Van Vreeswyk et al., 2004).

The Spearhole Land System consists of gently undulating hardpan plains supporting groved mulga shrublands and hard spinifex. This land system is not prone to erosion (Van Vreeswyk et al., 2004).

The McKay Land System consists of hills, ridges, plateaux remnants and breakaways of meta sedimentary rocks supporting hard spinifex grasslands. This land system is not prone to degradation or soil erosion (Van Vreeswyk et al., 2004).

The Washplain Land System consists of hardpan plains supporting groved mulga shrublands. Some parts of this land system are moderately susceptible to erosion (Van Vreeswyk et al., 2004).

The application area traverses some land systems which may be susceptible to erosion, particularly in drainage line areas. However, the linear nature of the proposed clearing for a pipeline corridor and the minimal impact to drainage lines is unlikely to result in significant land degradation.

Based on the above, the proposed clearing may 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**

There are no conservation areas in the vicinity of the application area. The nearest Department of Environment and Conservation managed lands are Collier Range National Park, approximately 115 kilometres south of the application area; and Karijini National Park, approximately 115 kilometres north-west of the application area (GIS Database).

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

**Methodology**

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**

The application area is located within the Newman Water Reserve, a Public Drinking Water Source Area (PDWSA) (GIS Database). All activities conducted within the PDWSA, should be in accordance with the Department of Water Land Use Compatibility Tables (Department of Water, 2008). The proponent is advised to follow the Water Quality Protection Guidelines, produced by the Department of Water, to minimise any risk that the proposed clearing and associated activities may pose to the Water Reserve (Department of Water, 2008).

Drainage lines and gullies in the area feed into Whaleback Creek, Homestead Creek and the Fortescue River (GIS Database). Creeklines are dry most of the year, only flowing briefly following significant rainfall (BHP Billiton, 2008). Appropriate surface water management practices will be implemented to minimise erosion and minimise potential impacts on the quality of surface water (BHP Billiton, 2008). The long narrow area of clearing proposed for a pipeline corridor is unlikely to have any significant impact on surface water quality.

Groundwater quality monitoring is conducted as part of the existing mine operations at the nearby Mount Whaleback and Orebody 29 minesites (BHP Billiton, 2008). The Department of Water (2008) has advised that the proposed clearing is unlikely to have any significant impact on the quality or quantity of underground water.

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

**Methodology**

BHP Billiton (2008).
Department of Water (2008).
GIS Database:
- Hydrography, linear
- Geodata, Lakes
- Newman 1.4m Orthomosaic - Landgate 2003
- Rivers

**(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 crosses the Fortescue River, Homestead Creek and Whaleback Creek, and the western end of the application area runs adjacent to Whaleback Creek (BHP Billiton, 2008; GIS Database). These watercourses are dry most of the year, only flowing briefly following significant rainfall (BHP Billiton, 2008).

The application area drains into the Fortescue River Upper catchment area (GIS Database). Natural flooding occurs occasionally within this catchment area during the wet season (November to March) following significant rainfall (BHP Billiton, 2008). However, the comparatively small area to be cleared (75 hectares) in relation to the size of the catchment area (2,975,192 hectares) (GIS Database) is unlikely to cause or exacerbate the incidence or intensity of flooding.

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

**Methodology**

BHP Billiton (2008).
GIS Database:
- Hydrographic Catchments - Catchments

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

**Comments**

The proposed pipeline corridor crosses the Fortescue River, Homestead Creek and Whaleback Creek (GIS Database). The Department of Water has advised that a Permit (PMB 167682) to Obstruct or Interfere with Bed and Banks, under s.17 of the Rights in Water and Irrigation Act 1914, has been issued to BHP Billiton for the

proposed works (BHP Billiton, 2008; Department of Water, 2008).

Water required for the proposed construction works will be supplied from existing licensed bores (BHP Billiton, 2008).

The application area falls partly on land managed by the Shire of East Pilbara. The pipeline corridor also crosses the Great Northern Highway road reserve which is managed by Main Roads WA. The Shire of East Pilbara and Main Roads WA have given approval for the work to be conducted on their lands (BHP Billiton, 2008).

**Methodology**

BHP Billiton (2005).
BHP Billiton (2008).
Department of Water (2008).
GIS Database:
- Aboriginal Sites of Significance
- Hydrography, Linear
- Native Title Claims
- Public Drinking Water Source Areas

## 4. Assessor's comments

**Comment**

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

## 5. References


BHP Billiton (2005) Aboriginal Heritage Induction Handbook. BHP Billiton Iron Ore Pty Ltd, Western Australia.

BHP Billiton (2008) Newman Water System Upgrade Project. Application to Clear Native Vegetation (Purpose Permit) under the Environmental Protection Act 1986. BHP Billiton Iron Ore Pty Ltd, Western Australia.

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. 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.

Department of Water (2008) Public Drinking Water Source Area (PDWSA) Advice. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR). Department of Environment, Western Australia.

Ecologia (2008a) Newman Water Pipeline Enhancement Project: Desktop Fauna Survey. Ecologia Environment, Western Australia.

Ecologia (2008b) Newman Water Pipeline Enhancement Project: Vegetation and Flora Survey. Version 3. Ecologia Environment, Western Australia.

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., 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 (updated 2005).

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.


## 6. Glossary

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