



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 3263/1
Permit Holder:	Hamersley Iron Pty Ltd
Duration of Permit:	19 December 2009 – 30 September 2014

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of geotechnical drilling and access track

2. Land on which clearing is to be done

L3114/1277

3. Area of Clearing

The Permit Holder must not clear more than 0.5 hectares of native vegetation within the area hatched yellow on attached Plan 3263/1.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the power to clear native vegetation for those activities in accordance with Section 91 of the *Land Administration Act 1997 (WA)* (Lic 00799-1973_2_84) or any other written law.

6. Compliance with Assessment Sequence and Management Procedures

Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

7. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

8. Weed control

- (a) When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:
- (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
 - (iii) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
- (b) At least once in each 12 month period for the *term* of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

PART III - RECORD KEEPING AND REPORTING

9. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:
In relation to the clearing of native vegetation authorised under this Permit:

- (a) the species composition, structure and density of the cleared area;
- (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
- (c) the date that the area was cleared; and
- (d) the size of the area cleared (in hectares).

10. Reporting

- (a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 9 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 30 June 2014, the Permit Holder must provide to the CEO a written report of records required under condition 9 of this Permit where these records have not already been provided under condition 10(a) of this Permit.

Definitions

The following meanings are given to terms used in this Permit:

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.

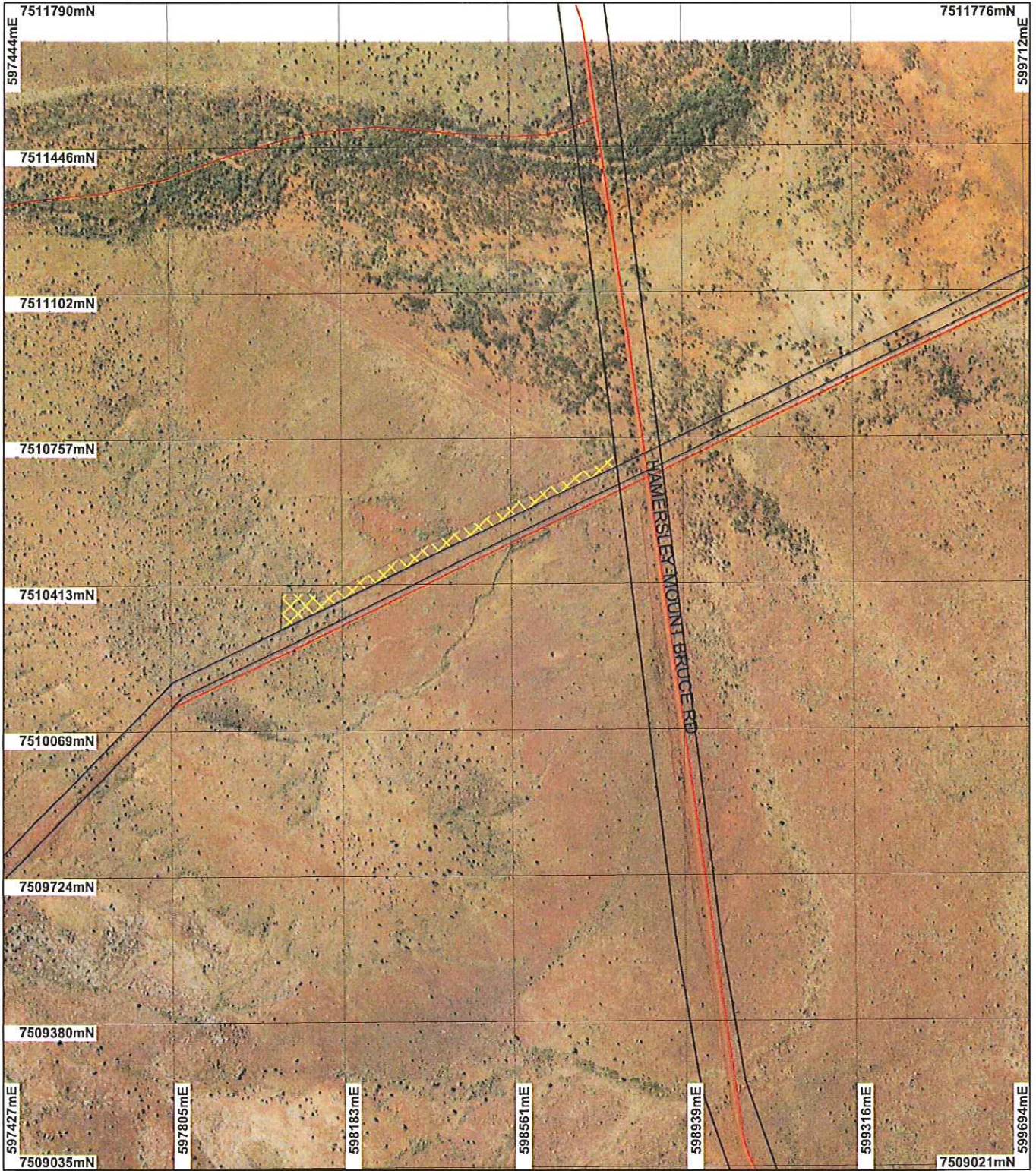


Keith Claymore
A/ ASSISTANT DIRECTOR
NATURE CONSERVATION DIVISION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

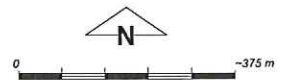
19 November 2009

Plan 3263/1



LEGEND

- | | |
|--|--|
| <p>Clearing Instruments</p> <ul style="list-style-type: none"> Areas Approved to Clear Road Centrelines Cadastre | <p>Mount Lionel 50cm
Orthomosaic - Landgate
2004</p> |
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Geocentric Datum Australia 1994
 Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Kim Claymore 12/11/09
 K Claymore
 Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.



1. Application details

1.1. Permit application details

Permit application No.: 3263/1
 Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Hamersley Iron Pty Ltd

1.3. Property details

Property: PART LOT 99 ON PLAN 238653 (MOUNT SHEILA 6751)
 PART LOT 99 ON PLAN 238653 (MOUNT SHEILA 6751)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.5		Mechanical Removal	Geotechnical drilling and an access track

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
There are two vegetation types that are mapped as occurring within the applied area: - Beard 18: Low woodland; mulga (<i>Acacia aneura</i>) - Beard 82: Hummock grasslands, low tree steppe; snappy gum over <i>Triodia wiseana</i>	The area to be cleared has limited vegetation and the clearing is to occur adjacent to a road. There are large sections of bare ground, however sparse vegetation is a characteristic of the surrounding environment.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The condition and description of the vegetation under application was determined via the use of aerial imagery and a flora and vegetation survey conducted by Biota (2008a).

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**
 The vegetation under application is considered to be in very good (Keighery, 1994) condition and the proposed clearing of 0.5ha is for the purpose of conducting geotechnical drilling and constructing an access track and will occur at the Southern Fortescue Borefield location. The clearing of 0.5ha is to occur within a wider clearing envelope of 2.4ha. The local area (20km radius) has approximately 95 - 100% remaining vegetation. The beard vegetation associations mapped as occurring within the Shire and Bioregion retain well above the EPA supported threshold level of 30% (EPA, 2000).

Within the local area (20km radius) nineteen priority flora species have been recorded. This included three priority three species, six priority two species, nine priority three species and one priority four species. However a flora and vegetation survey found no rare or priority flora within the Southern Fortescue Borefield location or surrounds, and it is considered unlikely for any to occur (Biota, 2008a).

Given that the application area is within an area that has been identified as a future conservation reserve (the 2015 ex Hamersley Station Exclusion Zone), DEC regional advice (2009) has stated ground disturbance should be minimised by utilizing existing track, cleared areas, raised blade clearing and avoiding off-road driving. To reduce the risk of weed invasion into the area, weed control conditions will be placed on the permit.

Methodology References:

- Biota (2008a)
- EPA (2000)
- DEC (2009)
- GIS DataBases:
 - CALM Managed Lands and Waters - CALM 01/06/05
 - Mount Lionel 50cm Orthomosaic - Landgate 2004
 - Pre European Vegetation - DA 01/01
 - SAC Biodatasets - accessed 14 September 09
 - Soils, Statewide DA 11/99
 - NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(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

There was only one recorded fauna species within the local area (20km radius), the Western Pebble-mound mouse Ngadji (*Pseudomys chapmani*). This species was recorded 15.6km south east of the applied area.

A fauna survey of the application area (and surrounding Marandoo area) was conducted by Biota (2008b) and also recorded the Western Pebble-mound mouse species along with the Ghost bat (*Macroderma gigas*) and the Northern Quoll (*Dasyurus hallucatus*). The survey sighted several other species which may occur within the applied area and surrounds, however it appears unlikely that the vegetation under application is significant habitat for local fauna species (Biota, 2008b), especially when considering the amount of surrounding vegetation and relatively small size of the application area, coupled with the habitat types actually impacted by the clearing being typical of the local area and well represented across the Pilbara (Biota, 2008b).

Methodology References:

- Biota (2008b)
- GIS DataBases:
 - Pre European Vegetation - DA 01/01
 - SAC Biodatasets - accessed 14 September 09
 - NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(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

No rare or priority listed flora have been recorded within the applied area. A flora and vegetation survey also found no rare or priority flora within the Southern Fortescue Borefield location or surrounds, and it is considered unlikely for any to occur (Biota, 2008a).

Given the small size of the proposed clearing (0.5ha) and largely undisturbed surrounding landscape, it is considered unlikely that the vegetation under application is necessary for the continued existence of rare flora

Methodology References:

- Biota (2008a)
- GIS DataBases:
 - NLWRA, Current Extent of Native Vegetation 20 Jan 2001
 - Pre European Vegetation - DA 01/01
 - SAC Biodatasets - accessed 14 September 09
 - Soils, Statewide DA 11/99

(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 closest recorded Threatened Ecological Community (TEC) was 'Themeda grasslands on cracking clays' which is located 6km north. This community has been mapped as occurring on both the same soil and vegetation types as the application area. A vegetation and flora survey over a much wider area, that included vegetation types found within the applied area found no vegetation types representative of a TEC (Biota, 2008a).

Given the distance from the applied area and the small size of the proposed clearing, it is considered unlikely that the vegetation under application is necessary for the maintenance of a TEC.

Methodology References:

- Biota (2008a)
- GIS DataBases:
 - Pre European Vegetation - DA 01/01

(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 local area (10km radius) has approximately 95 - 100% remaining vegetation. The beard vegetation associations mapped as occurring within the Shire and Bioregion retain well above the EPA supported threshold level (30%) recommended in the National Objectives Targets for Biodiversity Conservation; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000).

This being considered, and given that the proposed clearing area is small (0.5 hectares), the proposed clearing is not at variance to this principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	% In reserves DEC Managed Land
IBRA Bioregions*				
Pilbra	17,804,187	17,794,646	99.95	8.34
Shire*				
Ashburton	10,086,655	10,072,450	99.86	15.73
Beard Vegetation Association within Bioregion*				
18	676,556	676,556	100	17.18
82	2,563,583	2,563,583	100	17.52
Beard Vegetation Association within shire*				
18	342,472	342,472	100	33.92
82	1,537,077	1,537,077	100	17.52

* (Shepherd, 2007)

- Methodology** References:
- EPA (2000)
 - Shepherd (2007)
 - GIS DataBases:
 - Mount Lionel 50cm Orthomosaic - Landgate 2004
 - Pre European Vegetation - DA 01/01

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments Proposal may be at variance to this Principle

The local area is scattered with minor non-perennial watercourses. One such watercourse dissects the western end of the applied area, another is located 120 metres south and a minor river is located 1.3km east. However given the relatively low impact of the proposed clearing the seasonal rainfall events that feed the non-perennial watercourses and the small area to be cleared (0.5ha), it is unlikely that the watercourses or associated vegetation within the applied area will be significantly impacted.

- Methodology** GIS DataBases:
- CALM Managed Lands and Waters - CALM 01/06/05
 - Clearing Regulations, Environmentally Sensitive Areas 30 May 2005
 - EPP Lakes Policy Area - DEP 14/05/97
 - EPP, Wetlands 2004 (DRAFT) - EPA 21/7/04
 - Hydrography linear - DOW 13/7/06
 - Hydrography linear (hierarchy) - DoW 13/7/06

(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

Rainfall is approximately 500mm annually, elevation ranges between 670 (east end) - 700 metres (west end of application area) and the soils are described as high-level valley plains with extensive areas of pisolitic limonite deposits: principal soils are deep earthy loams along with small areas of soils (Northcote et al. 1960 - 1968). Given the soil characteristics, small relief and small scale of the clearing, it is considered unlikely that the proposed clearing will cause appreciable land degradation.

- Methodology** References:
- Northcote et al. (1960 - 1968)
- GIS DataBases:
- Groundwater Salinity Statewide DoW 13/07/06
 - Hydrogeology, statewide - DOW 13/07/06
 - Hydrographic catchments, catchments - DoW 01/06/07
 - Hydrography, linear - DOW 13/7/06
 - Mean Annual Rainfall (30-09-2001)
 - Salinity Risk LM 25m - DOLA 00
 - Soils, Statewide DA 11/99
 - Topographic contours statewide - DOLA and ARMY 12/09/02

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

- Comments** **Proposal is not likely to be at variance to this Principle**
- There is one conservation area located within the local area (20km radius), Karijini National Park, located 4.4km east of the application area. Given the size of the proposed clearing (0.5ha) and the large amount of remaining vegetation within the local area (95 - 100% remaining), it is unlikely that the environmental values of the nearby conservation area will be adversely impacted.

- Methodology** GIS DataBases:
- CALM Managed Lands and Waters - CALM 01/06/05
 - NLWRA, Current Extent of Native Vegetation 20 Jan 2001
 - System 1 to 5 and 7 to 12 areas - DEC 11/7/06

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

- Comments** **Proposal may be at variance to this Principle**
- The application area is situated within the Fortescue River Catchment, where groundwater salinity is recorded as being 500 - 1000 mg/L. The proposed clearing of 0.5 hectares of vegetation is unlikely to cause a deterioration in the quality of groundwater, given that the local area is well vegetated (approximately 95-100% remaining) and the majority of clearing activities are low impact i.e. geotechnical drilling. The local area is scattered with minor non-perennial watercourses. One such watercourse dissects the western end of the applied area, another is located 120 metres south and a minor river is located 1.3km east.

Surface water quality may be impacted by clearing activities in the short term, therefore the proposed clearing may be at variance to this principle.

- Methodology** GIS DataBases:
- Groundwater Salinity Statewide DoW 13/07/06
 - Hydrographic catchments, catchments - DoW 01/06/07
 - Hydrography linear - DOW 13/7/06
 - Hydrography linear (hierarchy) - DoW 13/7/06

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

- Comments** **Proposal is not likely to be at variance to this Principle**
- The clearing of 0.5ha of native vegetation for the purpose of geotechnical drilling and access tracks is unlikely to cause an increase in the intensity or duration of flooding given the amount of vegetation actually disturbed.

- Methodology** GIS DataBases:
- Mean Annual Rainfall (30-09-2001)
 - Soils, Statewide DA 11/99
 - Topographic Contours, Statewide - DOLA 12/09/02

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

- Comments**
- As required by the Native Title Act 1993 section 24KA, the Department of Environment and Conservation (DEC) notified native title claimants and representative bodies (Trim Ref: DOC97483 & 96471). An email was received from the Yamatji Land and Sea Council/Pilbara Native Title Services. No comment was made, however the Council advised that Corser & Corser were the solicitors for the claimants (Trim Ref: DOC97983).

As the geotechnical drilling and creation of access tracks is a precursor to the Marandoo Mine Operations no management plan to conduct these activities is required, however, future mining operation will be subject to the development of an exploration management plan.

The application area is within an area that has been identified as a future conservation reserve (the 2015 ex Hamersley Station Exclusion Zone). DEC Pilbara considers that it is important DEC personnel are on-site and consulted during planning for the establishment of new tracks within the proposed conservation area, Hamersley Station (DEC, 2009).

Hamersley Iron have supplied a copy of their section 91 Licence (Trim Ref: DOC106665).

Methodology DEC (2009)

4. Assessor's comments

Comment

The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986 and has found:

- Principles (a), (f) & (i) may be at variance
- Principle (e) is not at variance
- All other Principles are not likely to be at variance

5. References

- Biota Environmental Sciences (2008a) Marandoo Mine Phase 2 Project Vegetation and Flora Survey, prepared for Rio Tinto, August 2008. TRIM Ref: DOC93000
- Biota Environmental Sciences (2008b) Marandoo Mine Phase 2 Seasonal Fauna Survey, prepared for Rio Tinto, August 2008. TRIM Ref: DOC93000
- DEC (2009) Pilbara Regional Advice. Department of Environment and Conservation Trim Ref DOC98750
- 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.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Shepherd, D.P. (2007). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.

6. Glossary

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