



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 3434/1
Permit Holder:	BHP Billiton Iron Ore Pty Ltd
Duration of Permit:	23 January 2010 – 23 January 2015

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 underground relocation of power line infrastructure.

2. Land on which clearing is to be done

Lot 203 on Plan 220594
Great Northern Highway Road Reserve (BOODARIE)

3. Area of Clearing

The Permit Holder must not clear more than 2.25 hectares of native vegetation within the area hatched yellow on attached Plan 3434/1.

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 03388-1964_9_203) 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

8. 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).

9. 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 8 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 23 October 2014, the Permit Holder must provide to the CEO a written report of records required under condition 8 of this Permit where these records have not already been provided under condition 9(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;

term means the duration of this Permit, including as amended or renewed;

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*.

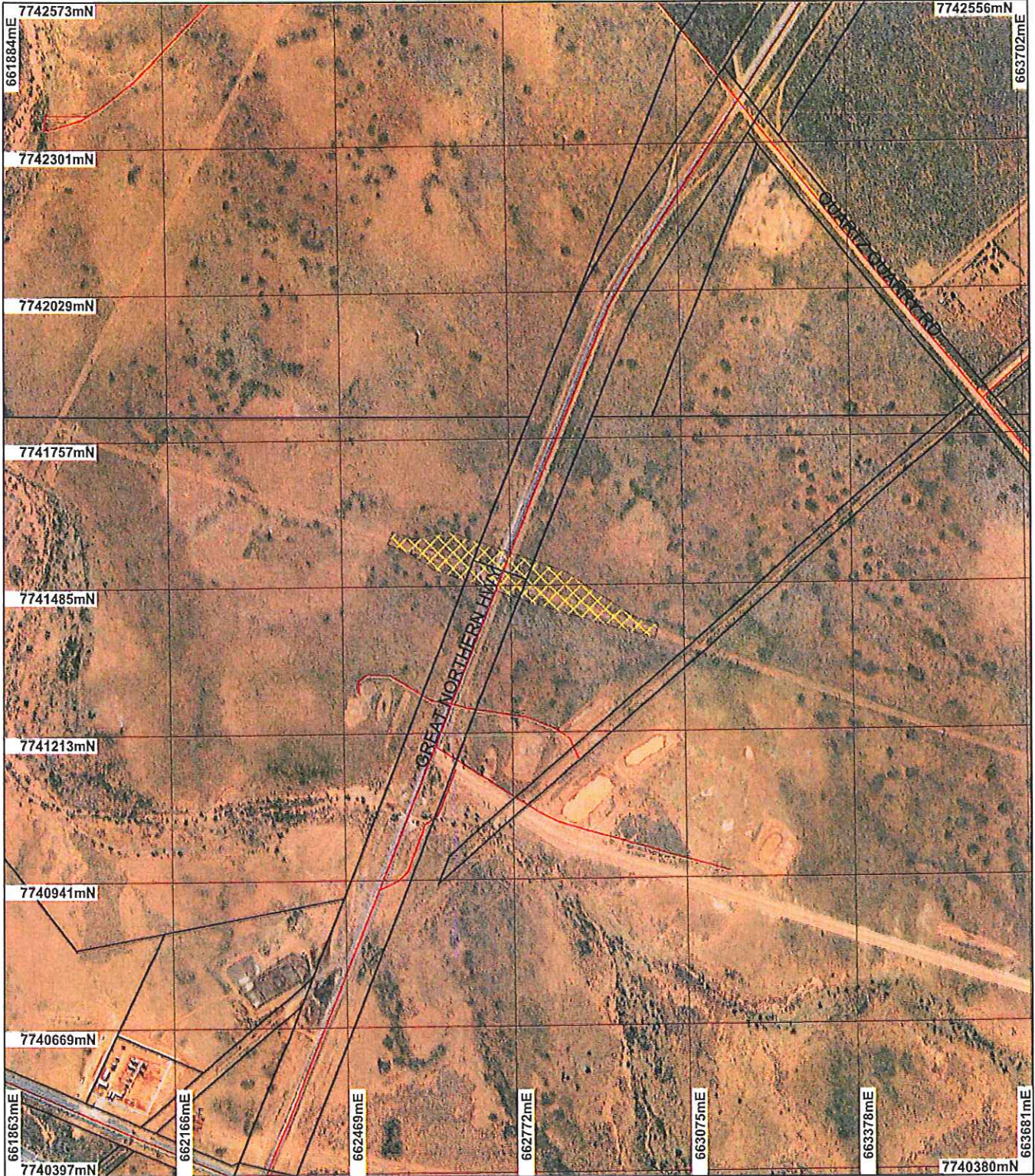


Robert Atkins
DEPUTY DIRECTOR GENERAL, ENVIRONMENT

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

23 December 2009

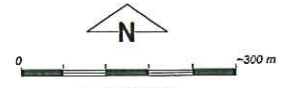
Plan 3434/1



LEGEND

- Clearing Instruments
- Areas Approved to Clear
- Road Centrelines
- Cadastral

Port Hedland 50cm
Orthomosaic - Landgate
2004



Scale 1:10009
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

[Signature] Date 23-12-09

Robert Atkins
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.





1. Application details

1.1. Permit application details

Permit application No.: 3434/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: BHP Billiton Iron Ore Pty Ltd

1.3. Property details

Property: ROAD RESERVE (BOODARIE 6722)
LOT 203 ON PLAN 220594 (BOODARIE 6722)
LOT 203 ON PLAN 220594 (BOODARIE 6722)
LOT 203 ON PLAN 220594 (BOODARIE 6722)
LOT 203 ON PLAN 220594 (BOODARIE 6722)

Local Government Area:

Colloquial name: Great Northern Highway Road Reserve

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.25		Mechanical Removal	Underground relocation of power line infrastructure

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
Beard vegetation association 589 has been mapped as occurring within the applied area. This unit is described as: - Mosaic: Short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex	The vegetation within the application area is described as an open Aristida holathera var.holathera, Eragrostis eripoda and Eriachne aristidea tussock grassland with very open Senna notabilis, Bonamia linearis and Triathema pilosa herbs with scattered low Acacia stellaticeps and Corchorus incanus subsp.incanus scrub (ENV Australia, 2009).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The description and condition of the vegetation under application was determined via the use of aerial imagery and a flora and fauna assessment conducted by ENV Australia during July 2009.
	The vegetation ranges from completely degraded to good (Keighery, 1994) condition. As the clearing is to occur adjacent to an existing highway and power lines, vegetation in close proximity to these structures is completely degraded. Areas of vegetation at a greater distance from the existing power lines and hwy are in good condition (ENV Australia, 2009).		
	There are signs of disturbance other than the highway. Introduced species were found to occur within the application area, rubbish was observed		

and signs of cattle frequenting the area could be seen (ENV Australia, 2009).

As above	As above	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	As above
As above	As above	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	As above

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 proposed clearing is necessary to allow for the underground relocation of power line infrastructure where the 66kV overhead power lines cross the Great Northern Highway. The total clearing area is 2.25ha within a 2.75ha clearing envelope.

The vegetation ranges from completely degraded to good (Keighery, 1994) condition (ENV Australia, 2009). The proposed clearing adjacent to an existing highway and power lines, is completely degraded (ref). Areas of vegetation at a greater distance from the existing power lines and highway are in good condition (ENV Australia, 2009). There are signs of disturbance other than the highway; introduced species were found to occur within the application area, rubbish was observed and signs of cattle frequenting the area could be seen (ENV Australia, 2009). To reduce the risk of weeds spreading throughout the local area, a weed control condition will be placed on the permit.

No rare or priority flora species were recorded within the application area. The closest recorded flora species was *Gymnanthera (cunninghamii)* (P3), which was recorded 9.1km north west. A flora survey conducted by ENV Australia (2009) during July also observed no rare or priority species within the applied area.

The Beard vegetation association mapped as occurring within the applied area retains more than the recommended 30% threshold level (EPA, 2000) and local area (20km radius) has approximately 90 -95% remaining vegetation.

Given the small size of the application area (2.25ha), existing disturbances, proximity to infrastructure and the large amount of remaining native vegetation in the local area, the vegetation under application is unlikely to be representative of an area of outstanding biodiversity.

Methodology

References:

- ENV Australia (2009)
 - EPA (2000)
 - Keighery (1994)
- ###### GIS Databases:
- Dec tenure (28 October 2009)
 - Port Hedland 50cm Orthomosaic - Landgate 2004
 - SAC Biodatasets - accessed 2 December 09
 - NLWRA, Current Extent of Native Vegetation 20 Jan 2001
 - Clearing Regulations, Environmentally Sensitive Areas 30 May 2005
 - 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**

There were 10 fauna species recorded as occurring within the local area (20km radius) of the application area and a fauna survey conducted by ENV Australia (2009) identified 48 conservation significant fauna species that could potentially occur within the applied area. However of these, only the Woma (*Aspidites ramsayi*) (P1), the Mulgara (*Dasyercus cristicauda*) and the Northern Short-tailed Mouse (*Leggadina lakedownensis*) are all known to utilise the soft sands of the application area for the use of burrows. Given that no burrows were recorded during a fauna survey (ENV, 2009), the size of the application area and the proximity of the vegetation to existing disturbances (i.e. Great Northern Hwy), it is considered unlikely that the vegetation under application offers significant habitat for fauna species in the local area (ENV, Australia 2009).

Methodology

References:

- ENV Australia (2009)
- GIS Databases:
 - Port Hedland 50cm Orthomosaic - Landgate 2004
 - SAC Biodatasets - accessed 2 December 09
 - Soils, Statewide DA 11/99
 - NLWRA, Current Extent of Native Vegetation 20 Jan 2001
 - Pre European Vegetation - DA 01/01

(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 species are known to occur within the applied area. During a flora survey conducted in July 2009, no rare or priority flora species were observed within the application area (ENV Australia, 2009).

Given the above, it is considered unlikely that the vegetation under application is necessary for the continued existence of rare flora.

Methodology References:
 - ENV Australia (2009)
 GIS Databases:
 - Port Hedland 50cm Orthomosaic - Landgate 2004
 - SAC Biodatasets - accessed 2 December 09
 - Soils, Statewide DA 11/99
 - NLWRA, Current Extent of Native Vegetation 20 Jan 2001
 - Pre European Vegetation - DA 01/01

(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 at variance to this Principle**
 No known records of Threatened Ecological Communities (TECs) occur within the local area (20km radius). During a flora survey undertaken by ENV Australia (2009) no TECs were observed within the application area.

The proposed clearing is not at variance to this principle.

Methodology References:
 - ENV Australia (2009)
 GIS Databases:
 - Port Hedland 50cm Orthomosaic - Landgate 2004
 - SAC Biodatasets - accessed 2 December 09
 - Soils, Statewide DA 11/99
 - NLWRA, Current Extent of Native Vegetation 20 Jan 2001
 - 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 Environmental Protection Authority (EPA) supports the retention of remnant native vegetation to a 30% threshold level as recommended in the National Objectives Targets for Biodiversity Conservation below which, species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000). As the below table indicates, the Beard vegetation association mapped as occurring within the applied area retains more than this 30% threshold level. In addition to this the local area (20km radius) has approximately 90 -95% remaining native vegetation. This being considered, and given the small size of the area to be cleared (2.25ha), the proposed clearing is not at variance to this principle.

	Pre-European (ha)	Current extent (ha)	Remaining %	Current % extent in reserves DEC Managed Land
IBRA Bioregions*				
Pilbara	17,804,187.89	17,794,646.75	99.95	8.34
Shire*				
Port hedland	1,850,069.24	1,846,055.47	99.78	0.00
Beard Vegetation Association within Bioregion*				
589	730,717.72	730,682.97	100.00	1.77

Beard Vegetation Association within Shire*
589 338,427 338,405 99.99 0.00

(Shepherd et al. 2007)

Methodology References:
- EPA (2000)
- Keighery (1994)
- Shepherd (2007)
GIS Databases:
- Port Hedland 50cm Orthomosaic - Landgate 2004
- SAC Biodatasets - accessed 2 December 09
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001
- 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 is not likely to be at variance to this Principle**
There are no watercourses or wetlands mapped within the application area. The closest watercourse is South West Creek, which is situated 450 metres south west.

Given the size of the proposed clearing, proximity to existing infrastructure and absence of watercourses and wetlands, it is considered unlikely that the proposed clearing is at variance to this principle.

Methodology GIS Databases:
- Port Hedland 50cm Orthomosaic - Landgate 2004
- 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**
The soils of the application area are described as extensive sandy plains: chief soils are red earthy sands with extensive areas of red earths and with some hard red soils along creek lines (Northcote et al 1960 ? 1968).

Given the size of the proposed clearing and proximity to existing infrastructure, it is considered unlikely that the proposed clearing will cause any appreciable land degradation.

Methodology References:
Northcote et al (1960 - 1968)
GIS Databases:
- Hydrogeology, statewide - DOW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrographic catchments, subcatchments - 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
- Hydrogeology, Statewide 05 Feb 2002

(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 at variance to this Principle**
There are no conservation areas within the local area (20km radius) therefore the proposed clearing is not at variance to this principle.

Methodology GIS Databases:
- Dec tenure (28 October 2009)
- Port Hedland 50cm Orthomosaic - Landgate 2004
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001
- Clearing Regulations, Environmentally Sensitive Areas 30 May 2005
- Pre European Vegetation - DA 01/01

(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**
Groundwater Salinity is mapped as 1000-3000 mg/L for the area under application. Given the size of the proposed clearing, proximity to existing infrastructure and absence of watercourses and wetlands, it is considered unlikely that the proposed clearing will degrade the quality of surface or groundwater.

Methodology GIS Databases:
- Hydrogeology, statewide - DOW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrographic catchments, subcatchments - 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
- Hydrogeology, Statewide 05 Feb 2002

(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**
Given the small size of the proposed clearing (2.25ha) and proximity to existing infrastructure, it is considered unlikely that the proposed clearing will increase the intensity or duration of localised flooding.

Methodology GIS Databases:
- Mean Annual Rainfall (30-09-2001)
- Port Hedland 50cm Orthomosaic - Landgate 2004
- Salinity Risk LM 25m - DOLA 00
- Soils, Statewide DA 11/99

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

Comments
A section 91 licence has been obtained by the applicant (Trim Ref: DOC107617)

Applicant has supplied a letter of consent from main roads supporting the clearing within Great Northern Highway road reserve (Trim Ref: DOC105647).

Native title notification letters were sent (Trim Ref: DOC108768). No response has been received.

Methodology

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:

- All of the principles are not at variance or not likely to be at variance.

5. References

- ENV Australia (2009) Port Hedland Transmission Lines, Flora and Fauna Assessment. Prepared for WorleyParsons, Report No: RP004. Trim Ref: DOC105647.
- 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 (now DEC)
DMP	Department of Mines and Petroleum (ex DoIR)
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)