



## **CLEARING PERMIT**

*Granted under section 51E of the Environmental Protection Act 1986*

### **PERMIT DETAILS**

Area Permit Number: 3239/1

File Number: DEC12300

Duration of Permit: From 4 December 2009 to 4 December 2011

### **PERMIT HOLDER**

Bothkamp Australia Pty Ltd

### **LAND ON WHICH CLEARING IS TO BE DONE**

Lot 349 on Plan 211565 Mulligans Lagoon Road, Kununurra

### **AUTHORISED ACTIVITY**

Clearing of up to 128 hectares of native vegetation within the area shaded yellow on attached Plan 3239/1.

### **CONDITIONS**

Nil

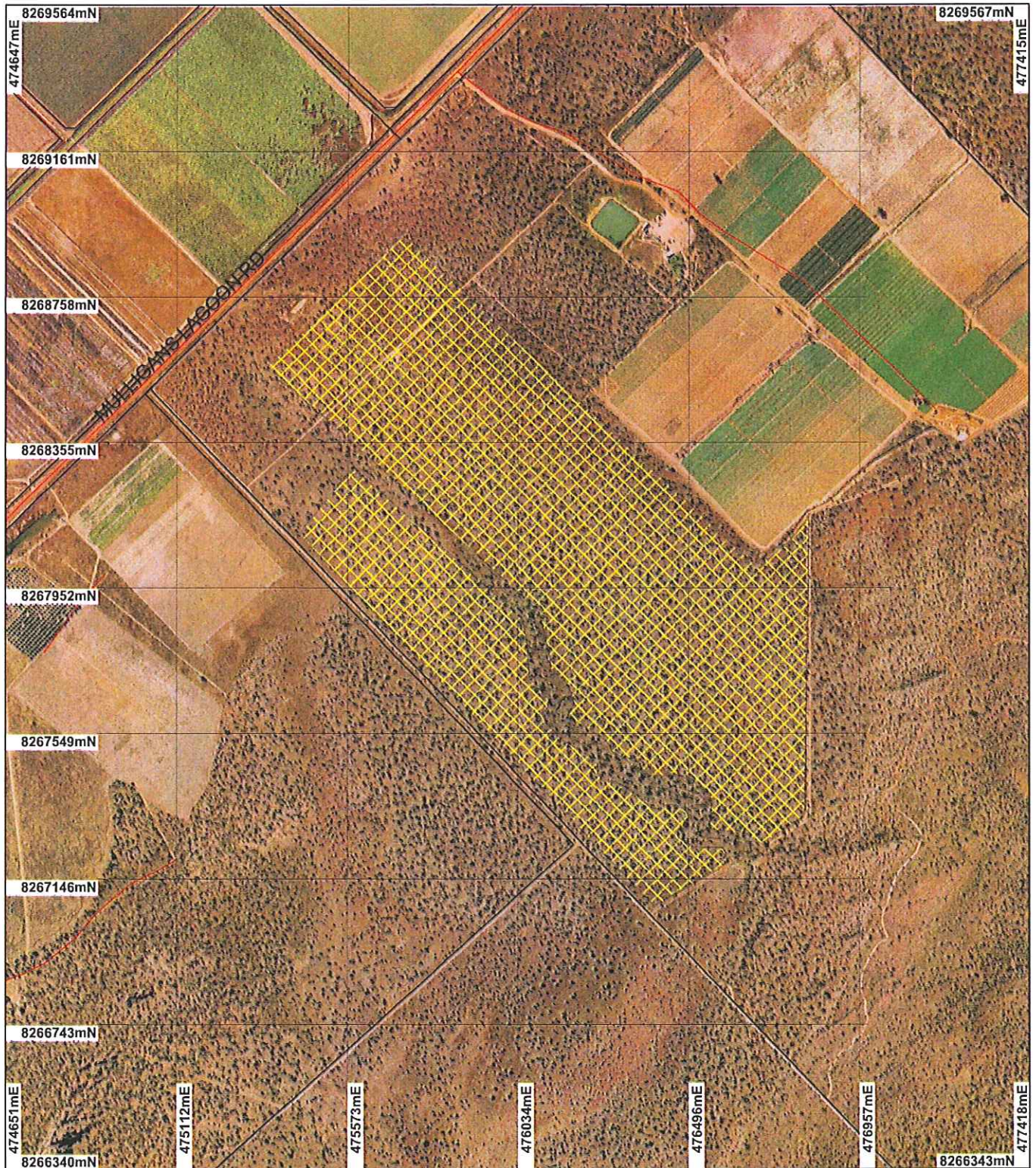
Keith Claymore  
A/ASSISTANT DIRECTOR  
NATURE CONSERVATION DIVISION

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

4 November 2009



# Plan 3239/1



## LEGEND

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

Kunungurra 50cm Orthomosaic  
Landgate 2005

Scale 1:15000  
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: No data in this map have not been  
provided. This may result in geometric  
distortion or measurement inaccuracies.

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.



Department of  
Environment and Conservation

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\* 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.: 3239/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Bothkamp Australia Pty Ltd

### 1.3. Property details

Property: LOT 349 ON PLAN 211565 (KUNUNURRA 6743)  
Local Government Area:  
Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
128		Mechanical Removal	Cropping

## 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 type: 909: Grasslands, high grass savanna woodland; bloodwood, stringybark & woollybutt over upland tall grass & curly spinifex on sandplain (SAC Bio Datasets 18/08/2009; Shepherd, 2007)	The two areas under application (128 ha) are located within Lot 349 (a 704 ha property). The proposed clearing is for cropping.  The areas under application have been described as two vegetation habitat types: - Uplands, savanna woodland and - Lowlands, sedgeland (Start and Craig, 2002).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The condition of the native vegetation under application was sourced from a flora and vegetation survey (Start and Craig, 2002) and the site inspection conducted on the 26 August 2009 (DEC, 2009).

## 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

Twelve priority flora species have been recorded within the local area (20km radius) with the nearest record being *Euphorbia stevenii*, located ~3.2 km west of the areas under application. A flora and vegetation assessment (Start and Craig, 2002) was undertaken in April 2002 within Lot 349 identified 173 native flora species including the priority flora species (Priority 3) Kurrajong (*Brachychiton tuberculatus*); this surveyed area is located immediately adjacent to the areas under application. A site inspection (DEC, 2009) of the areas under application observed occurrences of *Brachychiton tuberculatus*.

In addition, the flora and vegetation assessment (Start and Craig, 2002) identified a community, being a seasonally inundated swamp dominated by *Eleocharis aff acutangula* sedgeland that was probably uncommon and not represented in conservation reserves. A site inspection (2009) of the areas under application did not observe any wetlands to support the sedgeland community.

The vegetation under application is in very good (Keighery, 1994) condition with minimal disturbance from grazing or fires (DEC, 2009). This vegetation may provide habitat for native fauna such as the Flock Bronzewing that have been recorded in the local area.

Given the vegetation under application includes priority flora *Brachychiton tuberculatus* and may provide suitable habitat for fauna; the areas under application may comprise a high level of biological diversity.

#### Methodology

References:  
- DEC (2009)  
- Keighery (1994)

- Start and Craig (2002)
- GIS Database:
- SAC Bio Datasets 12/08/2009

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

Six fauna species of conservation significance have been recorded within the local area (20km radius) with the nearest record being the Flock Bronzewing, located ~2.1 km west of the areas under application.

A flora and vegetation assessment (Start and Craig, 2002) undertaken in April 2002 within Lot 349 identified 173 native flora species; this surveyed area is located immediately adjacent to the areas under application. The vegetation under application is in very good (Keighery, 1994) condition with minimal disturbance from grazing or fires (DEC, 2009). This vegetation may provide habitat for native fauna such as the Flock Bronzewing and the Little Bittern that have been recorded in the local area.

Given the relatively large size of the vegetation proposed to be cleared (128 ha) and that the native vegetation is in very good (Keighery, 1994) condition, which may comprise suitable habitat for a range of native fauna; it is considered that the vegetation under application may be at variance to this Principle.

**Methodology      References:**

- DEC (2009)
- Keighery (1994)
- Start and Craig (2002)
- GIS Database:
- SAC Bio Datasets 12/08/2009

**(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**

There are no rare flora species recorded within the local area (20 km radius). The nearest recorded rare flora species is Eucalyptus ceracea, located ~186 km north-west of the areas under application.

A flora and vegetation assessment (Start and Craig, 2002) undertaken in April 2002 did not identify any rare flora species within Lot 349. Therefore, it is not considered that the vegetation under application is likely to be at variance to this Principle.

**Methodology      Reference:**

- Start and Craig (2002)
- GIS Database:
- SAC Bio Datasets 12/08/2009

**(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) recorded within the local area (20 km radius). The nearest recorded TEC is Black spring organic mound spring community (Endangered), located ~255 km west of the areas under application.

Given the distance to the nearest TEC and that the vegetation under application has been identified as two main habitat types: uplands of savanna woodland and lowlands of sedgelands (Start and Craig, 2002), it is considered that the vegetation under application is not likely to comprise a TEC.

**Methodology      Reference:**

- Start and Craig (2002)
- GIS Database:
- SAC Bio Datasets 12/08/2009

**(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 likely to be at variance to this Principle**

The vegetation within the areas under application is identified as a component of Beard vegetation type 909, of which there is 99.6% of Pre-European extent remaining within the Bioregion (Shepherd, 2007).

The Environmental Protection Authority (EPA) supports 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). The vegetation type under application retains more than this 30% threshold level.

Given the extent of vegetation remaining in the Shire (99.9%), the current representation level of the Beard type, it is not considered likely that the vegetation under application is located in an area that has been extensively cleared.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Victoria Bonaparte (VB)	1,871,372	1,848,351	99.7	
Shire of Wyndam-East Kimberley*				
	11,716,470	11,699,072	99.9	
Beard vegetation types*				
909 (within VB Bioregion)	281,415	280,441	99.6	1.1

\* (Shepherd, 2007)

- Methodology** References:
- EPA (2000)
  - Shepherd (2007)
- GIS Databases:
- Interim Biogeographic Regionalisation of Australia
  - SAC Bio Datasets 12/08/2009

**(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**

A minor, ephemeral creek line passes through Lot 349, between the two areas under application. The proponent has excluded this area of approximately 10 ha (20 m buffer on each side) from the application to clear, to retain the ecological values of the system. There are also smaller, ephemeral creeks that are not defined drainage lines, but drain into the flat sand plains and then infiltrate into the soil (DEC, 2009); the vegetation associated with the smaller creeks may differ from the surrounding vegetation.

A minor drainage line is located adjacent to the northern boundary of Lot 349 and ~400m north of the area under application. The Ord River (also incorporating Lake Kununurra, an ANCA wetland) is located ~6.2 km west of the area under application.

Given there are small creeks passing through the area under application with associated vegetation, the proposal may be at variance to this Principle.

- Methodology** Reference:
- DEC (2009)
- GIS Databases:
- Hydrography, linear
  - 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 landscape of the area under application and surrounds can be described as gently undulating sandy plains with very small areas of low bouldery sandstone hills. The chief soils are deep red and yellow siliceous sands (Northcote et al., 1960-68). These sandy soils are considered to be at risk of wind erosion.

DAFWA (2009) advised that the junction complex soils located in the north-western section of the areas under application and covering an area of approximately 20 ha are prone to water logging over the wet season. The proponent has excluded 12.5 ha of this are prone to water logging.

The adjacent lateritic complex soils are prone to soil erosion where the slopes are greater than 1% (DAFWA, 2009).

The areas under application are relatively flat being ~40m AHD north-western side to 60m AHD south-eastern side.

Given the identified sandy soils and the relatively large areas proposed to be cleared (128 ha), it is considered that the proposed clearing may cause appreciable land degradation in the form of wind erosion and soil erosion. Therefore, it is considered that the clearing as proposed may be at variance to this Principle.

- Methodology**    **References:**
- DAFWA (2009)
  - Northcote et al (1960-68)
- GIS Databases:**
- Soils, Statewide
  - Topographic Contours, Statewide

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

- Comments**        **Proposal is not likely to be at variance to this Principle**
- There is one conservation reserve within the local area (20 km radius), being Mirima National Park located ~8.2 km south of areas under application. Given the distance to the nearest conservation area, the proposed clearing is not likely to impact the conservation values of any conservation area.

- Methodology**    **GIS database:**
- DEC 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**
- A minor, ephemeral creek line passes through Lot 349, between the two areas under application. The proponent has excluded this area of approximately 10 ha (20 m buffer on each side) from the application to clear, to retain the ecological values of the system. There are also smaller, ephemeral creeks that are not defined drainage lines, but drain into the flat sand plains and then infiltrate into the soil (DEC, 2009).
- A minor drainage line is located adjacent to the northern boundary of Lot 349 and ~400m north of the area under application.
- The areas under application are not mapped within a Public Drinking Water Source Area.
- Given the main creek line has been excluded from the application and the identified sandy soils, it is not likely that the proposed clearing will cause deterioration in the quality of surface or ground water.

- Methodology**    **Reference:**
- DEC (2009)
- GIS Databases:**
- Hydrography, linear
  - Public Drinking Water Source Areas (PDWSAs)
  - Soils, Statewide

**(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 landscape of the area under application and surrounds can be described as gently undulating sandy plains with very small areas of low bouldery sandstone hills. The chief soils are deep red and yellow siliceous sands (Northcote et al, 1960-68). Given the identified sandy soils that have the capacity for high infiltration rates, the proposed clearing is not likely to cause or increase the flooding in the local area.

- Methodology**    **Reference:**
- Northcote et al (1960-68)
- GIS Database:**
- Soils, Statewide

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

- Comments**
- Department of Agriculture and Food (DAFWA, 2009a) advised that given the catchment size the drainage line should be 40 m wide for a 1:2 year storm event and 80 m wide for a 1:20 year storm event.
- DAFWA (2009a) advised that a minimum 10 ha uncleared infiltration area at the end on the defined creekline is necessary to soak up the water. This infiltration area should not be situated on the junction complex soils, which have very poor internal drainage, as the water will pond rather than infiltrate (DAFWA, 2009a). Further,



this channelling of water may significantly increase the quantity of water to the irrigation channels, potentially resulting in siltation of the irrigation channels and increase the risk of flooding (DEC, 2009a). Given no hydrological study has been undertaken the impacts can not be identified.

The Department sent a letter dated 30 September 2009 to the applicant. Bothkamp Australia Pty Ltd (2009b) sent a modified proposal and a letter from The Ord Irrigation Cooperative Ltd in response to the correspondence. The modified proposal allowed for:

- a 20 m buffer on each side of the creek line
- excluding a 12.5 ha area on the junction complex soils
- excluding an 8 ha area for infiltration, and
- including a 13.5 ha area.

The assessment of the clearing principles has been undertaken against the additional information.

Further, DAFWA (2009b) considers that the amended clearing proposal is likely to accommodate run off from regular wet season storm events; severe storms of 10-20 yr ARI are likely to lead to waterlogging and inundation on the lower lying land along Mulligans Lagoon Road.

The Shire of Wyndham-East Kimberley advised that no Shire approval is necessary for the proposed land use of cropping.

The areas under application are located within the RIWI Irrigation District of Ord District. Bothkamp Australia Pty Ltd (2009) has an agreement with the Water Corporation to obtain irrigation water for Lot 349 from the D4 drain.

There is no other RIWI Act Licence, Works Approval or EP Act Licence that affects the areas under application.

The proposed development of 120 ha within Lot 349, in an area immediately adjacent to the areas under application, was referred to the EPA in December 2001. The proposal was not assessed with public advice given; the advice outlined that an area of Eleocharis swamp floristic community was omitted from the proposal (EPA, 2002). This community may be uncommon and under-represented in conservation reserves (EPA, 2002); and may occur within the areas under application.

Lot 349 is zoned rural under the local Town Planning Scheme.

#### Methodology

##### References:

- Bothkamp Australia Pty Ltd (2009)
- Bothkamp Australia Pty Ltd (2009a)
- Bothkamp Australia Pty Ltd (2009b)
- DAFWA (2009a)
- DAFWA (2009b)
- DEC (2009a)
- EPA (2002)

##### GIS databases:

- Cadastre
- Environmental Impact Assessments
- RIWI Act, Irrigation Districts
- Town Planning Scheme Zones

## 4. Assessor's comments

#### Comment

The assessable criteria have been addressed and the clearing as proposed may be at variance to Principles (a), (b), (f) and (g).

## 5. References

Bothkamp Australia Pty Ltd (2009) Irrigation water agreement between Bothkamp Pty Ltd and Water Corporation. TRIM Ref DOC93136

Bothkamp Australia Pty Ltd (2009a) Proposed Amendment by Bothkamp Pty Ltd (Email). TRIM Ref DOC96521

Bothkamp Australia Pty Ltd (2009b) Response to DEC Letter, including Proposed Additional Amendment by Bothkamp Pty Ltd (Email). TRIM Ref DOC102476

DAFWA (2009) Land Degradation Advice received from Department of Agriculture and Food (Email). TRIM Ref DOC98673

DAFWA (2009a) Additional Land Degradation Advice received from Department of Agriculture and Food (Email). TRIM Ref DOC98976

- DAFWA (2009b) Additional Land Degradation Advice received from Department of Agriculture and Food - Commissioner of Soil and Land Conservation (Email). TRIM Ref DOC104095
- DEC (2009) Site Inspection Report for Clearing Permit Application CPS 3239/1, Lot 349, Kununurra. Site inspection undertaken 26/08/2009. Department of Environment and Conservation, Western Australia. TRIM Ref DOC95660
- DEC (2009a) Additional DEC Regional advice for Clearing Permit Application CPS 3239/1, Lot 349, Kununurra. Department of Environment and Conservation (Email). TRIM Ref DOC97893
- 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.
- EPA (2002) Correspondence from Environmental Protection Authority to the Department of Agriculture - Letter advising of level of assessment (Attachment in email from Department of Agriculture and Food). TRIM Ref DOC94417
- 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.
- Start A.N. and Craig A.B. (2002) Preliminary Assessment of the Flora and Vegetation on Part of King Location 349; Report to Bothkamp Australia P/L, Department of Conservation and Land Management and Department of Agriculture. TRIM Ref DOC93370

## 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)