

#### CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:

CPS 2356/1

Permit Holder:

Shire of Mukinbudin

**Duration of Permit:** 

3 October 2009 - 3 October 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 road widening

## 2. Land on which clearing is to be done

Koorda – Bullfinch Road Reserve Rail Reserve (Barbalin)

#### 3. Area of Clearing

The Permit Holder must not clear more than 1 hectare of native vegetation within the area shaded yellow on attached Plan 2356/1a.

#### 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 under the *Local Government Act 1995* 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 for the authorised purpose of this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) Avoid the clearing of native vegetation;
- (b) Minimise the amount of native vegetation to be cleared; and
- (c) Reduce the impact of clearing on any environmental value.

#### 8. Weed control

- (a) When undertaking any clearing, or other activity pursuant to this Permit the Permit Holder must take the following steps to minimise the risk of 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) shall not move soils in wet conditions;
  - (iii) ensure that no weed-affected soil, road building material, mulch or fill or other material is brought into the area to be cleared; and
  - (iv) 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.

## 9. Flora Management

- (a) Prior to undertaking clearing within the areas described in conditions 1 and 3, the areas shall be inspected by a *flora specialist* who shall identify any *Acacia denticulosa* taxa.
- (b) Where Acacia denticulosa taxa are identified in relation to condition 9(a) the Permit Holder shall ensure that no clearing occurs within 50m of identified Acacia denticulosa, unless approved by the CEO.

## 10. Revegetation and rehabilitation

- (a) The Permit Holder must *revegetate* and *rehabilitate* the area shaded red on attached Plan 2356/1b by:
  - (i) establishing and maintaining native vegetation to an average planting density of 2,000 plants per hectare;
  - (ii) ensuring the species consist of overstorey, midstorey and understorey species;
  - (iii) sourcing seeds and propagating material from within a 50 km radius of the area cleared, and;
  - (iv) commencing planting before 01 June 2011 and completing planting by 31 August 2013.
- (b) Within twelve months of undertaking *revegetation* in accordance with condition 10(a) of this Permit, the Permit Holder must:
  - (i) determine the species composition, structure and density of the area revegetated; and
  - where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 10(b)(i) of this Permit will not result in a similar species composition, structure and density to that defined under condition 10(a)(i)(ii) of this Permit, the Permit Holder must undertake additional planting or direct seeding of native vegetation in accordance with the requirements of condition 10(a)(i)(ii) and (iii) of this Permit.

#### PART III - RECORD KEEPING AND REPORTING

## 11. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit, as relevant:

- (a) In relation to the clearing of native vegetation undertaken pursuant to this clearing permit:
  - (i) the species composition, structure and density of the cleared area
  - (ii) the location where the clearing occurred, recorded using a Global Positional System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (iii) the date that the area was cleared; and
  - (iv) the size of the area cleared (in hectares).
- (b) In relation to the revegetation and rehabilitation of areas pursuant to condition 10 of this Permit:
  - (i) the location of any areas revegetated and rehabilitated, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (ii) a description of the revegetation and rehabilitation activities undertaken;
  - (iii) the size of the area revegetated and rehabilitated (in hectares); and
  - (iv) the species composition, structure and density of revegetation and rehabilitation.

## 12. 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 11 and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 3 August 2014, the Permit Holder must provide to the CEO a written report of records required under condition 11 where these records have not already been provided under condition 12(a).

#### **Definitions**

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

condition means the rating given to native vegetation using the Keighery scale and refers to the degree of change in the structure, density and species present in the particular vegetation in comparison to undisturbed vegetation of the same type;

environmental specialist means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

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

*flora specialist* means a person with specific training and/or experience in the ecology and taxonomy of Western Australian flora.

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;

*planting* means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of native vegetation in an area such that the species composition and structure consists of overstorey, midstorey and understorey species and the average density is 2,000 plants per hectare, and can involve regeneration, direct seeding and/or planting;

road building materials means rock, gravel, soil, stone, timber, boulders and water;

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

weed 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

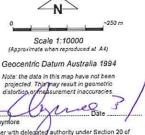
Officer delegated under Section 20 of the Environmental Protection Act 1986

3 September 2009

## Plan 2356/1a







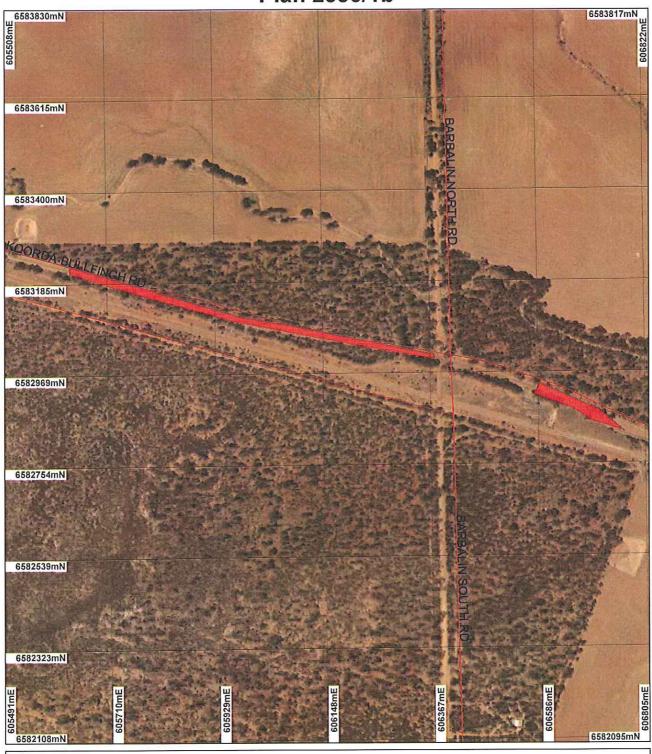
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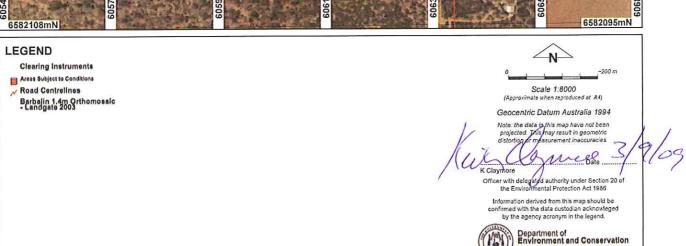
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\* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.

## Plan 2356/1b





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## **Clearing Permit Decision Report**

### 1. Application details

Permit application details

Permit application No.:

2356/1

Permit type:

Purpose Permit

1.2. Proponent details

Proponent's name:

Shire of Mukinbudin

1.3. Property details

Property:

RAILWAY RESERVE (BARBALIN 6479) ROAD RESERVE (BARBALIN 6479)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)

No. Trees

Method of Clearing

For the purpose of:

Mechanical Removal

Road construction or maintenance

#### 2. Site Information

## 2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

**Beard Vegetation** Association: Medium woodland; salmon gum & gimlet (Shepherd et al. 2001);

Heddle Vegetation

Complex: No data

1980).

available (Heddle et al.

Clearing Description

The proposed clearing consists of ~1 ha along Koorda-Bullfinch Road for proposed road realignment. The proposal is adjacent to Barbalin Nature Reserve which at its nearest point is located 55 m north of the application site.

Vegetation within the area under application can be described as medium Eucalyptus woodland with a sparse to no understorey. Vegetation along the edge of the railway line is in 'completely degraded' condition with the vegetation adjacent to Koorda-Bullfinch Road to the west of the applied area is in 'degraded' condition.

**Vegetation Condition** 

**Excellent: Vegetation** structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)

Comment

Description and condition of the vegetation under application was determined from the Site Inspection (2008). Vegetation ranges in condition from 'degraded' to 'completely degraded' with an average condition rating of 'degraded'.

## 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 is for the proposed clearing of up to 1 hectare of vegetation ranging in condition from 'degraded' to 'completely degraded'. The proposed clearing is to allow for the realignment the Koorda-Bullfinch Road to be completed.

While the proposed clearing is adjacent to the only known population of the Arid Bronze Azure Butterfly (Ogyris subterrestris subsp. petrina) (DEC, 2008b) the clearing of vegetation within the area under application is not considered likely to impact on the species and the realignment is considered likely to reduce deaths currently being caused by traffic on the existing road.

Given the limited diversity of flora due to the degraded nature of the vegetation under application and that the amended area under application is not considered likely to impact the adjacent butterfly population clearing as proposed is not likely to be at variance with this principle.

#### Methodology

## References:

- DEC (2008a)
- DEC (2008b)
- Submission (2008a)

#### GIS Databases:

- Barbalin 1.4m Orthomosaic DLI03
- CALM Managed Lands and Waters

# (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

Twelve indigenous fauna species of conservation significance have been recorded within a 50 km radius of the area under application. The closest record is the Endangered Bronze Azure Butterfly (Ogyris subterrestris subsp. petrina) which has been recorded immediately adjacent to the area under application.

This population is currently the only known population of this subspecies and 'can justifiably be ranked as one of Western Australia's two rarest butterflies' (DEC, 2008b). The Shire of Mukinbudin including the adjacent Barbalin Nature Reserve has been surveyed for the Arid Bronze Azure Butterfly however no additional populations or breeding sites have been located.

DEC considers that the proposed re-alignment would result in minimal loss of habitat for Arid Bronze Azure Butterfly (Ogyris subterrestris subsp. petrina) and the Camponotus terebrans ants which this species has an obligate relationship with to raise their larvae. The area under application does not appear to be used while Bronze Azure Butterfly is in flight and as such the proposed realignment is likely to reduce deaths currently being caused by traffic on the existing road (DEC, 2009a).

Given the condition of the vegetation and the surrounding nature reserves it is considered unlikely the area under application would provide significant habitat for other fauna in the local area.

#### Methodology

#### References:

- DEC fauna habitat notes. February 2007
- · DEC (2008a)
- Garnett et al. (2000)
- Burbidge et al. (2004)
- DEC (2008b)
- DEC (2009a)
- Submission (2008a)
- DEC Sciecne Division (2008)

GIS Databases:

- SAC Bio datasets 20/02/2008

# (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

#### Comments

## Proposal may be at variance to this Principle

Five species of Declared Rare Flora (DRF), three species of priority 1 flora, three species of priority 2 flora, two species of priority 3 flora and one species of priority 4 flora are located within a 10 km radius of the area under application with the nearest DRF, Acacia denticulosa, being located adjacent to the area under application and the nearest priority flora, Acacia merrickiae, being located approximately 1.7 km to the west.

Given the DRF Acacia denticulosa is found adjacent to the area under application (DEC, 2009b) the proposed clearing may be at variance to this principle. It is therefore a condition of the permit that the area be inspected by a flora specialist prior to undertaking any clearing to confirm the presence/absence of this declared rare species.

#### Methodology

- DEC (2008a)
- DEC (2009b)
- Brown et al. (1998)
- Western Australian Herbarium (1998)

GIS Databases:

- SAC Bio datasets 20/02/2008

# (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 Threatened Ecological Communities or Priority Ecological Communities within a 50 km radius of the area under application.

The clearing is considered unlikely to be at variance to this principle.

#### Methodology

## References:

- SAC Bio datasets 20/02/2008

# (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 at variance to this Principle

The proposed clearing is within the Intensive Land-use Zone (Shepherd et al, 2001) and is located in the area defined in EPA Position Statement No. 2 (EPA, 2000).

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).

Beard Vegetation Association 8 has less than the recommended 30% minimum of Pre-European extent remaining (9.54% remaining) and the Shire of Mukinbudin has only 14% of Pre-European vegetation extent remaining (Shepherd 2001; EPA 2006).

Given the extent of clearing that has occurred within the Shire of Mukinbudin and the greater Wheatbelt bioregion the area under application is considered significant as a remnant of native vegetation and clearing as proposed is considered at variance to this principle.

A revegetation condition will be placed on the permit to offset the clearing of under represented vegetation.

Avon Wheatbelt ** Shire of Mukinbudin *	Pre-European area (ha) 9,517,117 342,575	Current extent (ha) 1,468,711 278,129	Remaining % 15.4 14.0	% in reserves/DEC- managed land 7.4
Beard vegetation associations - 8	s ** 356, 571	34, 017	9.54	9.12
(Avon Wheatbelt - Bioregion)				

<sup>\* (</sup>Shepherd 2001)

#### Methodology

#### References:

- Shepherd (2001)
- EPA (2006)
- Commonwealth of Western Australia (2001)
- EPA (2000)

GIS Databases:

- Pre-European Vegetation DA 01/01
- Heddle Vegetation Complexes DEP 21/06/95
- Interim Biogeographic Regionalisation of Australia EA 18/10/00
- EPA Position Paper No 2 Agriculture Region

## (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

No wetlands are located within the vicinity of the area under application (5 km radius). A minor non-perennial watercourse is located 180m north of the area under application.

During the site inspection (DEC, 2008a) the area under application was observed to support medium Eucalyptus (mallee) Woodland with a dense shrub layer and a moderately dense herb layer.

Between the area under application and the watercourse to the north is approximately 180m of native vegetation which form part of Barbalin Nature Reserve.

Given the area under application does not support creek line dependant vegetation and vegetation within this watercourse remains buffered from the area under application by vegetation within Barbalin Nature Reserve clearing is not considered likely to be at variance to this principle.

#### Methodology

#### References:

- DEC (2008a)

GIS Databases:

- Hydrography, linear 1
- Barbalin 1.4m Orthomosaic DLI03
- CALM Managed Lands and Waters

<sup>\*\* (</sup>EPA, 2006)

# (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 vegetation under application lies within soils associated with broad flat valleys with chief soils being hard alkaline red soils (Northcote et al. 1960-68).

During the site inspection (DEC, 2008a) the area under application was observed to support shallow pink loamy sands with sparse gravel.

Soils within the area under application may be prone to both wind and water erosion however surrounding vegetation is likely to provide some buffer to wind erosion, and water erosion will be seasonal and reduced through the installation of roadside infrastructure such as table drains and culverts. Given this clearing as proposed is unlikely to cause appreciable land degradation and is not likely to be at variance to this principle.

#### Methodology

#### References:

- Northcote et al. (1960-68)
- DEC (2008a)

GIS Databases:

- Barbalin 1.4m Orthomosaic DLI03
- (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 may be at variance to this Principle

Barbalin Nature Reserve is split into four segments by Koorda-Bullfinch Road (east west) and Barbalin South Road (north south). The area under application is located between the railway and the Koorda-Bullfinch Road and although it does not form part of Barbalin Nature Reserve the area is at its nearest point located approximately 55m south of the north western segment of this reserve.

The proposed clearing also has the potential to indirectly impact the environmental values of the adjacent reserves through the spread or introduction of weed species, by machinery. The consequences associated with the spread of exotic species into areas reserved for conservation, including the potential decline or local extinction of species.

Given the potential impact on the adjacent reserves through the spread or introduction of weeds clearing may be at variance to this principle.

A condition will be placed on the permit that requires weeds to be managed.

#### Methodology

## References:

- DEC (2008a)
- DEC Science Division (2008)
- Submission (2008a)

GIS Databases:

- CALM Managed Lands and Waters
- Road Centrelines

# (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

No wetlands are located within the vicinity of the area under application (5 km radius). A significant stream is located 180m north of the area under application.

The area under application is located in an area at low risk of developing salinity.

During the site inspection (DEC 2008a) the area under application was observed to support medium Eucalyptus (mallee) Woodland with a dense shrub layer and a moderately dense herb layer.

The area under application is approximately 1 ha in size and the water course to the north is buffered from the area under application by approximately 180 m of native vegetation.

Although the area under application supports deep rooted perennial vegetation the area is small and the stream to the north is buffered by approximately 180 m of vegetation similar to that present within the application site. Given this clearing is unlikely to affect groundwater quality and the quality of water flowing into the stream. Clearing is thus considered not likely to be at variance to this principle.

#### Methodology

References:

- DEC (2008a)

GIS Databases:

- Groundwater Salinity, Statewide
- Salinity Risk LM 25m DOLA 00
- Hydrography, linear (hierarchy)

## (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

No wetlands are located within the vicinity of the area under application (5 km radius). A significant stream is located 180m north of the area under application.

During site inspection (DEC, 2008a) the area under application was observed to support medium Eucalyptus (mallee) Woodland with a dense shrub layer and a moderately dense herb layer.

The area under application is approximately 1 ha in size and the water course to the north is buffered from the area under application by approximately 180 m of native vegetation.

Although the area under application supports deep rooted perennial vegetation the area is small and surrounded by similar vegetation to that present within the area under application. Given this, clearing is unlikely to cause or exacerbate the incidence of flooding.

#### Methodology

References:

- DEC (2008a)

GIS Databases:

- Hydrography, linear (hierarchy)

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

#### Comments

Following discussions with DEC the Shire has proposed a realignment of the Koorda Bullfinch Road that is south of its original alignment. This new alignment avoids a significant remnant of native vegetation in excellent condition that provides critical breeding habitat for the only known population of the Endangered Bronze Azure Butterfly. This new alignment is also likely to lead to a reduction in Butterfly deaths currently being caused by traffic

The Shire proposes to rehabilitate part of the existing road to offset the clearing with the remainder becoming an off road rest/parking area (Shire of Mukinbudin 2008).

No Aboriginal Heritage Sites of Significance are located within the area under application (Department of Indigenous Affairs 2008) and the area under application is not within a Native Title Claim Area.

#### Methodology

References:

- Shire of Mukinbudin (2008)

GIS Databases:

- Native Title Claims

### 4. Assessor's comments

#### Comment

The assessable criteria have been addressed and the proposal is considered to be at variance with principle (e) and may be at variance to principles (c) and (h).

#### 5. References

Brown A., Thomson-Dans C. and Marchant N., (1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.

Burbidge, A.A. (2004). Threatened Animals of Western Australia. Perth, Department of Conservation and Land Management.

Commonwealth of Australia (2001). National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.

DEC (2008a). Site Inspection Report, Department of Environment and Conservation (DEC). Perth, Western Australia. TRIM Ref. DOC2055.

DEC. (2008) Species and Communities Branch 18/03/2008.

DEC. (2008b). Science Division. Arid Bronze Azure Butterfly at Barbalin Nature Reserve. TRIM Ref. DOC50678.

- DEC. (2009). Science Division. Proposed new alignment and impact on Arid Bronze Azure Butterfly at Barbalin Nature Reserve.
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- Garnett, S.T. and Crowley, G.M. (2000). The Action Plan for Australian Birds. Canberra, Environment Australia.
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- 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.
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- Shire of Mukinbudin. (2008). Application for clearing permit Blackspot Program, Koorda-Bullfinch Road, Barbalin. TRIM Ref. DOC46081.
- Submission. (2008a). Report Relating to Licence to Take Fauna For Scientific Purposes No. SF005970 Arid Bronze Azure Butterfly (daily observations, behaviour, breeding habits and distribution): By Dr SS Brown. TRIM Ref. DOC47047.
- Western Australian Herbarium (1998-). FloraBase The Western Australian Flora. Department of Environment and Conservation. http://florabase.calm.wa.gov.au/ (Accessed 18 February 2008).

### 6. Glossary

WRC

Term

Biodiversity Coordination Section of DEC BCS

Department of Conservation and Land Management (now BCS) CALM

Department of Agriculture and Food **DAFWA** 

Department of Environment and Conservation DEC Department of Environmental Protection (now DEC) DEP

Department of Environment DoE

Department of Industry and Resources DoIR

Declared Rare Flora DRF

**Environmental Protection Policy EPP** Geographical Information System GIS Hectare (10,000 square metres) ha Threatened Ecological Community TEC Water and Rivers Commission (now DEC)

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