



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 4455/1
Permit Holder:	Shire of Pingelly
Duration of Permit:	7 November 2011 – 7 November 2016

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 and reconstruction.

2. Land on which clearing is to be done

Bulyee Road reserve
Bullaring – Pingelly Road reserve
Hassell Road reserve
Hastings Road reserve
Napping Pool Road reserve
Shaddick Road reserve
Norm Road reserve
South Kweda Road reserve
Zig Zag Road reserve
Wickepin-Pingelly Road reserve

3. Area of Clearing

The Permit Holder must not clear more than 2 hectares of native vegetation within the area hatched yellow on attached Plan 4455/1 (a), Plan 4455/1 (b), Plan 4455/1 (c), Plan 4455/1 (d), Plan 4455/1 (e), Plan 4455/1 (f), Plan 4455/1 (g) and Plan 4455/1 (h).

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 authorised under 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

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*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

9. Fauna management

- (a) Prior to undertaking any clearing authorised under this Permit, the area(s) shall be inspected by a *fauna specialist* who shall identify habitat/*habitat tree(s)* suitable to be utilised by fauna species listed below:
 - (i) Carnaby's black cockatoo (*Calyptorhynchus latirostris*); and
 - (ii) Baudin's black cockatoo (*Calyptorhynchus baudinii*)
- (b) Prior to clearing, any habitat/*habitat tree(s)* identified by condition 9(a) shall be inspected by a *fauna specialist* for the presence of fauna listed in condition 9(a).
- (c) Within one week prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *fauna clearing person* to remove and relocate fauna identified under condition 9(b).

PART III - RECORD KEEPING AND REPORTING

10. Records must be kept

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

- (a) In relation to the clearing of native vegetation authorised under this Permit:
 - (i) 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;
 - (ii) the date that the area was cleared; and
 - (iii) the size of the area cleared (in hectares).
- (b) In relation to fauna management pursuant to condition 9 of this Permit:
 - (i) the location of each habitat tree identified recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) the species name of fauna reasonably likely to utilise, or that have been observed utilising, the habitat tree(s); and
 - (iii) the location and date where relocated fauna was released, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees.

11. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
 - (i) of records required under condition 10 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 July and 30 June of the preceding year.

(b) Prior to 7 August 2016, the Permit Holder must provide to the CEO a written report of records required under condition 10 of this Permit where these records have not already been provided under condition 11(a) of this Permit.

DEFINITIONS

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

fauna clearing person means a person who has obtained a licence from the Department, issued pursuant to the *Wildlife Conservation Regulations 1970* authorising them to take fauna;

fauna specialist means a person with training and specific work experience in fauna identification or faunal assemblage surveys of Western Australian fauna;

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

habitat tree(s) means trees that have a diameter, at average adult human chest height, of greater than 50cm, healthy but with dead limbs and broken crowns that are likely to contain hollows and roosts suitable for native fauna, or where these are not present then healthy but with the potential to contain hollows and roosts;

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*.



Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH









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

13 October 2011

Plan 4455/1(a)



LEGEND

-  Road Centrelines
-  Clearing Instruments
-  Areas Approved to Clear
-  Brookton-Boddington 1m Orthomosaic - Landgate 2004
-  Corrigin North 1.4m Orthomosaic - Landgate 2001
-  Corrigin South 1.4m Orthomosaic - Landgate 2000
-  Corrigin 80cm Orthomosaic - Landgate 2005
-  Narrogin 80cm Orthomosaic - Landgate 2005



Scale 1:49999
(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 of measurement inaccuracies.

[Signature] Date 13/10/11

K Faulkner

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Plan 4455/1 (b)



LEGEND

- Road Centrelines
- Clearing Instruments
- Areas Approved to Clear
- Brookton-Boddington 1m Orthomosaic - Landgate 2004
- Corrigin North 1.4m Orthomosaic - Landgate 2001
- Corrigin South 1.4m Orthomosaic - Landgate 2000
- Corrigin 80cm Orthomosaic - Landgate 2005
- Narrogin 80cm Orthomosaic - Landgate 2005



0 1.5 km

Scale 1:50021

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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K Faulkner Date 13/01/11

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Plan 4455/1 (c)



LEGEND

-  Road Centrelines
-  Clearing Instruments

 Areas Approved to Clear

- Brookton-Boddington 1m Orthomosaic - Landgate 2004
- Corrigin North 1.4m Orthomosaic - Landgate 2001
- Corrigin South 1.4m Orthomosaic - Landgate 2000
- Corrigin 80cm Orthomosaic - Landgate 2005
- Narrogin 80cm Orthomosaic - Landgate 2005



0 1.5 km

Scale 1:50027

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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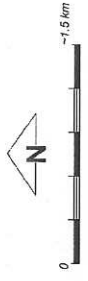
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Plan 4455/1 (d)



LEGEND

- ✓ Road Centrelines
- ✂ Clearing Instruments
- Areas Approved to Clear
- Brookton-Boddington 1m Orthomosaic - Landgate 2004
- Corrigin North 1.4m Orthomosaic - Landgate 2001
- Corrigin South 1.4m Orthomosaic - Landgate 2000
- Corrigin 80cm Orthomosaic - Landgate 2005
- Narrogin 80cm Orthomosaic - Landgate 2005



Scale 1:50000
(Approximate when reproduced at A4)
 Geocentric Datum Australia 1994
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[Signature] Date 13/10/11
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Plan 4455/1 (e)



LEGEND

- Road Centrelines
- Clearing Instruments
- Areas Approved to Clear
- Brookton-Boddington 1m Orthomosaic - Landgate 2004
- Corrigin North 1.4m Orthomosaic - Landgate 2001
- Corrigin South 1.4m Orthomosaic - Landgate 2000
- Corrigin 80cm Orthomosaic - Landgate 2005
- Narrogin 80cm Orthomosaic - Landgate 2005



0 1.5 km

Scale 1:50045
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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distortion of measurement/accuracies.

Date 13/10/11

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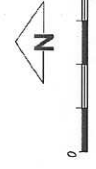
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Plan 4455/1 (f)



LEGEND

- Road Centrelines
- Clearing Instruments
- Areas Approved to Clear
- Brookton-Boddington 1m Orthomosaic - Landgate 2004
- Corrigin North 1.4m Orthomosaic - Landgate 2001
- Corrigin South 1.4m Orthomosaic - Landgate 2000
- Corrigin 80cm Orthomosaic - Landgate 2005
- Narrogin 80cm Orthomosaic - Landgate 2005



Scale 1:50049
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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[Signature] Date 13/01/11

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





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Plan 4455/1 (g)



LEGEND

-  Road Centrelines
-  Clearing Instruments
-  Areas Approved to Clear
-  Brookton-Boddington 1m Orthomosaic - Landgate 2004
-  Corrigin North 1.4m Orthomosaic - Landgate 2001
-  Corrigin South 1.4m Orthomosaic - Landgate 2000
-  Corrigin 80cm Orthomosaic - Landgate 2005
-  Narrogin 80cm Orthomosaic - Landgate 2005



Scale 1:59994
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Geocentric Datum Australia 1994

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 Date 13/9/11

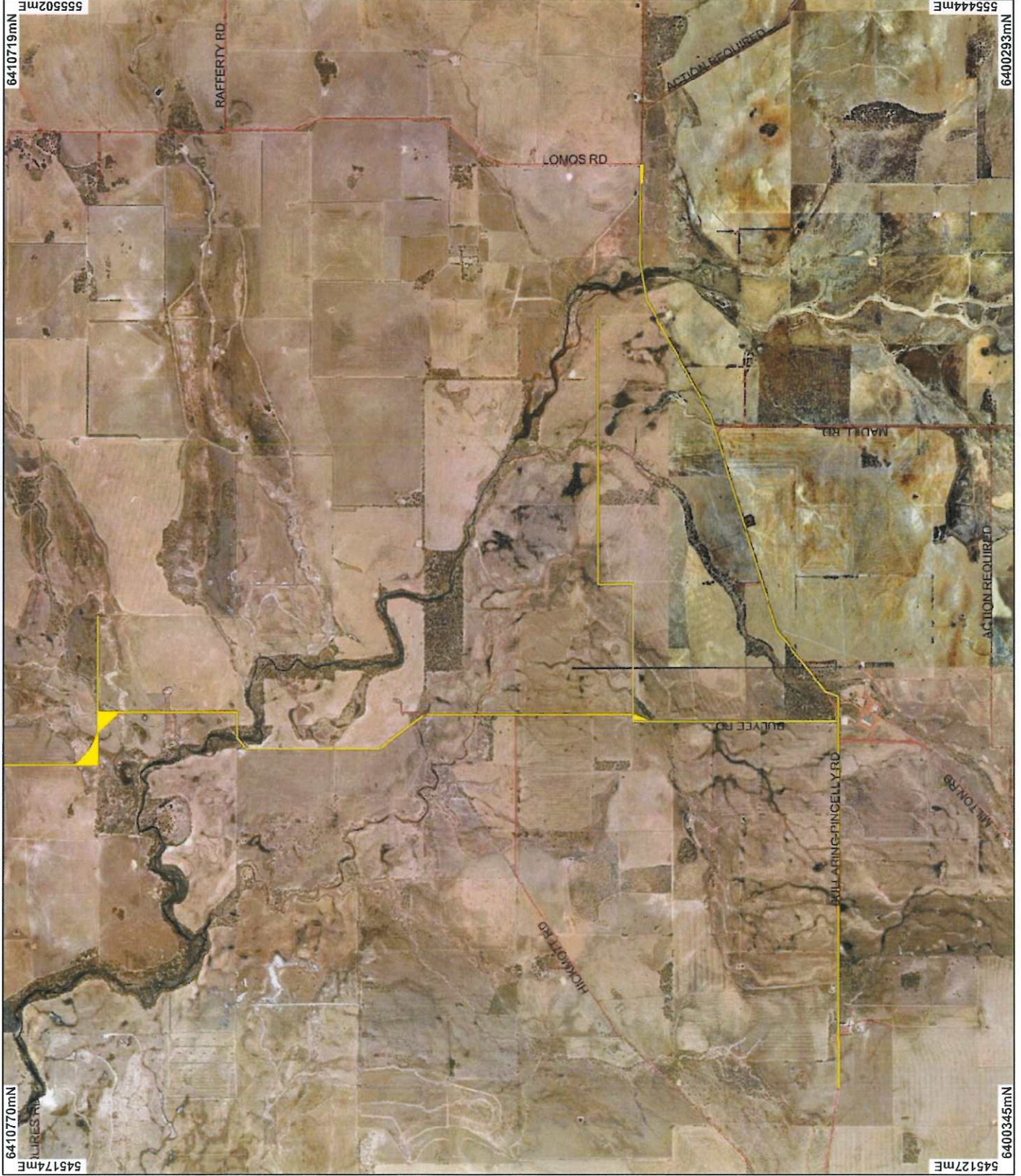
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Plan 4455/1 (h)



LEGEND

- Road Centrelines
- Clearing Instruments
- Areas Approved to Clear
- Brookton-Boddington 1m Orthomosaic - Landgate 2004
- Corrigin North 1.4m Orthomosaic - Landgate 2001
- Corrigin South 1.4m Orthomosaic - Landgate 2000
- Corrigin 80cm Orthomosaic - Landgate 2005
- Narrogin 80cm Orthomosaic - Landgate 2005



0 1.5 km

Scale 1:50000
(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: 13/1/11

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1. Application details

1.1. Permit application details

Permit application No.: 4455/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Pingelly

1.3. Property details

Property:
ROAD RESERVE (BULYEE 6306)
ROAD RESERVE (EAST PINGELLY 6308)
ROAD RESERVE (BULLARING 6373)
ROAD RESERVE (POPANYINNING 6309)
ROAD RESERVE (WEST PINGELLY 6308)
ROAD RESERVE (EAST PINGELLY 6308)
ROAD RESERVE (PUMPHREYS BRIDGE 6308)
ROAD RESERVE (KWEDA 6306)

Local Government Area: Shire of Pingelly
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2		Mechanical Removal	Road construction or maintenance

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 13 October 2011

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
Mapped Beard vegetation association 5 is described as Medium woodland; wandoo & powderbark (<i>Eucalyptus accedens</i>)	The application is to clear 2 ha of native vegetation within multiple road reserves for the purpose of road construction and widening.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	The condition of the vegetation was assessed using aerial imagery (Corrigin 80cm Orthomosaic - Landgate 2005, Narrogin 80cm Orthomosaic - Landgate 2005, Corrigin North 1.4m Orthomosaic - Landgate 2001 and Corrigin South 1.4m Orthomosaic - Landgate 2000).
Mapped Beard vegetation association 37 is described as Shrublands; teatree thicket			
Mapped Beard vegetation association 128 is described as Bare areas; rock outcrops			
Mapped Beard vegetation association 946 is described as Medium woodland; wandoo			
Mapped Beard vegetation association 947 is described as Medium woodland; powderbark & mallet			
Mapped Beard vegetation association 1023 is described as Medium woodland; York gum, wandoo & salmon gum (<i>Eucalyptus salmonophloia</i>)			
Mapped Beard vegetation association 1053 is described as Shrublands; <i>Melaleuca uncinata</i> thicket with scattered York gum			
Mapped Beard vegetation association 3041 is described as Mosaic: Low woodland; <i>Allocasuarina huegeliana</i> & jam around granite rocks (Shepherd 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 is not likely to be at variance to this Principle

The application is for the clearing of 2ha of native vegetation within Bulyee Road reserve, Bullaring Road reserve, Hassell Road reserve, Hastings Road reserve, Napping Pool Road reserve, Shaddick Road reserve, Norm Road reserve, South Kweda Road reserve, Zig Zag Road reserve and Wickepin - Pingelly Road reserve, Shire of Pingelly, for the purpose of road construction and widening.

The vegetation is in a completely degraded (Keighery 1994) condition and consists of large eucalypt trees, *Allocasuarina* and *Acacia* sp, over a weedy understorey. The majority of the vegetation to be cleared is within the maintenance zone as the road reserves are quite narrow. There are large *Eucalyptus* trees within the maintenance zone that have been avoided for years and now the road winds around them. These large trees now need to be removed to allow for widening of the road.

Twenty three threatened and priority fauna species have been recorded near the areas under application. Tammar Wallaby (*Macropus eugenii* subsp *derbianus*, Priority 5 Wildlife Conservation Act 1950), the Numbat (*Myrmecobius fasciatus*, Threatened, Wildlife Conservation Act 1950; Vulnerable, Environment Protection and Biodiversity Conservation Act 1999) and the Red-tailed Phascogale (*Phascogale calura*, Threatened, Wildlife Conservation Act 1950; Endangered, Environment Protection and Biodiversity Conservation Act 1999) are recorded just outside the areas under application (DEC 2007-). The vegetation within the applied Road reserves does not contain suitable habitat for these species.

The application area contains suitable habitat for conservation significant fauna including the threatened Carnaby's black cockatoo (*Calyptorhynchus latirostris*) (Endangered, Wildlife Conservation Act 1950; Endangered, Environment Protection and Biodiversity Conservation Act 1999) and Baudin's black cockatoo (*Calyptorhynchus baudinii*) (Endangered, Wildlife Conservation Act 1950; Vulnerable, Environment Protection and Biodiversity Conservation Act 1999), which are known from the local area (DEC, 2007-).

Declared rare flora species, *Acacia cochlocarpa* subsp. *Cochlocarpa* (Spiral-fruited wattle), has been recorded within Shaddick road reserve, however the location was never confirmed. This species grows mainly in disturbed roadsides on sand, or clayey sand with laterite in open shrubland (Brown et al 1998). This section of road reserve has no native vegetation and only weeds and it is unlikely to occur in this section of road reserve.

Of the eight mapped Beard vegetation associations within the area under application, five that occur within the Avon Wheatbelt bioregion have less than 30 per cent of their pre-European extent remaining, and are therefore considered to be below threshold levels for maintaining biodiversity. In addition, Beard association 1023 has 11 per cent remaining within Avon wheatbelt bioregion.

As the surrounding landscape is extensively cleared (approximately 20 per cent remaining vegetation within the local area) the vegetation connects larger remnants of bushland and therefore may have some values as a biological corridor, particularly for native fauna in a highly cleared landscape.

Although the area under application represents vegetation communities which are threatened and/or poorly represented and may provide habitat for threatened indigenous fauna species it is in a completely degraded (Keighery, 1994) condition with only large tree and weeds remaining. Therefore the area under application is not likely to contain a high level of biodiversity.

The proposed clearing is not likely to be at variance to be at variance to this principle.

Methodology

Reference:

Brown et al 1998

DEC (2007-)

DEC (2011)

GIS Databases:

- Corrigin North 1.4m Orthomosaic - Landgate 2001
- Corrigin South 1.4m Orthomosaic - Landgate 2000
- Narrogin 80cm Orthomosaic - Landgate 2005
- Corrigin 80cm Orthomosaic - Landgate 2005
- Pre-European Vegetation - DA
- SAC Biodatasets - Accessed July 2011

(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 at variance to this Principle

Twenty three threatened and priority fauna species have been recorded near the areas under application. Tammar Wallaby (*Macropus eugenii* subsp *derbianus*, Priority 5 Wildlife Conservation Act 1950), the Numbat (*Myrmecobius fasciatus*, Threatened, Wildlife Conservation Act 1950; Vulnerable, Environment Protection and Biodiversity Conservation Act 1999) and the Red-tailed Phascogale (*Phascogale calura*, Threatened, Wildlife

Conservation Act 1950; Endangered, Environment Protection and Biodiversity Conservation Act 1999) are recorded just outside the areas under application. The vegetation within Bullaring Road reserve does not contain suitable habitat for these species.

The application area contains suitable habitat for conservation significant fauna including the threatened Carnaby's black cockatoo (*Calyptorhynchus latirostris*) (Endangered, Wildlife Conservation Act 1950; Endangered, Environment Protection and Biodiversity Conservation Act 1999) and the Baudin's black cockatoo (*Calyptorhynchus baudinii*) (Endangered, Wildlife Conservation Act 1950; Vulnerable, Environment Protection and Biodiversity Conservation Act 1999), which are known from the local area (DEC, 2007-).

Breeding for black cockatoos occurs in winter/spring, mainly in the eastern forests and wheatbelt where they can find mature hollow-bearing trees to nest in (DEC 2007). Clearing and subsequent land degradation has eliminated most of the breeding habitat for black cockatoos. These birds require old trees with large hollows in which to nest, which may take many decades for trees planted now to become suitable. Competition for nesting hollows by increasing numbers of galahs, western corellas and non native honey bees is significant (Burbridge 2004).

During a DEC (2011) site visit some large habitat trees were identified in the application area. Potential habitat trees have a diameter, at average adult human chest height, of greater than 50cm, healthy but with dead limbs and broken crowns that are likely to contain hollows and roosts suitable for native fauna, or where these are not present then healthy but with the potential to contain hollows and roosts.

As the surrounding landscape is extensively cleared the vegetation connects larger remnants of bushland and therefore may act as a biological corridor, particularly for native avian fauna in a highly cleared landscape (approximately 20 per cent remaining vegetation within the local area).

Measures to avoid and minimise clearing will help to reduce the impact to significant black cockatoo habitat and where possible the applicant is encouraged to prune trees rather than clear.

Given there is suitable habitat identified within the areas under application, for indigenous avian fauna species the proposed clearing is considered to be at variance to this principle.

A fauna management condition will manage and mitigate impacts from the proposed clearing on Carnaby's black cockatoo (*Calyptorhynchus latirostris*), and Baudin's black cockatoo (*Calyptorhynchus baudinii*).

Methodology

References:

Burbridge (2004)
DEC (2007-)
DEC (2007)
DEC (2011)

GIS Databases:

- Corrigin North 1.4m Orthomosaic - Landgate 2001
- Corrigin South 1.4m Orthomosaic - Landgate 2000
- Narrogin 80cm Orthomosaic - Landgate 2005
- Corrigin 80cm Orthomosaic - Landgate 2005
- DEC Tenure - DEC

(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

Declared rare flora (DRF) species, *Acacia cochlocarpa* subsp. *cochlocarpa*, has been recorded within Shaddick road reserve, which is with the application area, however this location was never confirmed.

Acacia cochlocarpa subsp. *cochlocarpa* (Spiral-fruited wattle) grows mainly in disturbed roadsides on sand, or clayey sand with laterite in open shrubland (Brown et al 1998).

This section of Shaddick road reserve has no native vegetation and only weeds and it is highly unlikely that *Acacia cochlocarpa* subsp. *cochlocarpa* occurs in this section of road reserve.

The proposed clearing along Shaddick Road is unlikely to impact upon *Acacia cochlocarpa* subsp. *Cochlocarpa*.

The clearing as proposed is not likely to be at variance to this principle.

Methodology

References

Brown et al 1998
GIS databases
- SAC Biodatasets - August 11

(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 records of known threatened ecological communities within the local area (10 kilometre radius) and as such the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases:
- SAC Biodatasets - July 11

(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 may be at variance to this Principle

The area under application falls within the Avon Wheatbelt IBRA bioregion which has approximately 18 per cent of its pre-European extent of vegetation coverage remaining. The Shire of Pingelly has approximately 17 per cent native vegetation remaining.

Of the eight mapped Beard vegetation associations within the area under application, there are five that occur within the Avon Wheatbelt bioregion which have less than 30 per cent of their pre-European extent remaining, and are therefore considered to be below threshold levels for maintaining biodiversity.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001).

The vegetation is in a completely degraded (Keighery 1994) condition and consists of large eucalypt trees, Allocasuarina and Acacia sp, over a weedy understorey. This is not representative of the mapped vegetation types. Road reserves within the Shire of Pingelly may be significant as remnants as there is minimal vegetation remaining in the area and all of the roadside vegetation has considerable value as vegetated linkages across a landscape that has been significantly cleared for agricultural purposes.

The proposed clearing may result in the clearing of significant native vegetation in an extensively cleared landscape. Therefore the proposed clearing may be at variance to this principle.

	Pre-European (ha)	Current Extent Remaining (ha)	Extent Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Avon Wheatbelt	9 517 109	1 736 214	18.24	9.51
Shire*				
Shire of Pingelly	129 445	22 340	17.26	33.3
Beard Vegetation Association in Bioregion*				
5	19 091	8 932	46.8	62.2
Beard Vegetation Association in Bioregion*				
37	3 901	1076.78	27.6	16.39
Beard Vegetation Association in Bioregion*				
128	41 967	19 879	47.3	11.3
Beard Vegetation Association in Bioregion*				
946	43 308	8 169	18.9	8.9
Beard Vegetation Association in Bioregion*				
947	34 013	11 778	34.6	39.8
Beard Vegetation Association in Bioregion*				
1023	1 522 676	167 704	11.01	9
Beard Vegetation Association in Bioregion*				
1053	13 823	3 168	22.9	26.9
Beard Vegetation Association in Bioregion*				
3041	6 373	1 840	28.9	6.1

*Shepherd 2009

- Methodology** References:
- Shepherd (2009)
GIS Databases:
- Corrigin North 1.4m Orthomosaic - Landgate 2001
- Corrigin South 1.4m Orthomosaic - Landgate 2000
- Narrogin 80cm Orthomosaic - Landgate 2005
- Corrigin 80cm Orthomosaic - Landgate 2005
- Pre-European Vegetation - DA

(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

There are multiple non-perennial watercourses that intersect the application area and as such sections of vegetation to be cleared may be growing in association with a watercourse.

Existing infrastructure including culverts and bridges occur within the applied clearing area and the amount of vegetation that is to be disturbed along the watercourses is minimal. Therefore the proposed clearing may be at variance to this principle.

Measures to avoid and minimise the clearing along the watercourses, as well as the upgrade of infrastructure such as culverts and bridges, will assist in preventing any long term impacts to the waterways from the road widening.

- Methodology** GIS Databases:
- Hydrography, linear - DoW

(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

Given the nature of the application, localised land degradation is likely to occur during the works, however this is likely to be only short term. These issues should be minimal as the existing roads already have roadside infrastructure in place to prevent land degradation associated with roads.

Given the linear nature of the application area, it is unlikely that the proposed clearing of native vegetation would cause appreciable land degradation. Therefore the proposed clearing is not likely to be at variance to this principle.

- Methodology** GIS database:
- Soils, Statewide - DA
- Hydrogeology, Statewide - DoW

(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

Woyerling Nature Reserve, Landscape Hill Nature Reserve, Moorumbine Nature Reserve and Petecarring Nature Reserve are located adjacent to Bullaring rd.

Mockerdungulling Nature Reserve is located adjacent to Wickepin-Pingelly rd, North Woyerling Nature Reserve is located adjacent to South Kweda rd and Boyermucking Nature Reserve is located adjacent to Norm rd.

Tutanning Nature Reserve is on the register of national estate and is located 1km away from Bullaring rd.

The clearing may impact on environmental values and could increase the spread of weed species into these conservation areas. Therefore, the proposal may be at variance to this principle. Weed management practices will mitigate and minimise the potential for introduction or spread of invasive weed species.

- Methodology** GIS Databases:
- Corrigin North 1.4m Orthomosaic - Landgate 2001
- Corrigin South 1.4m Orthomosaic - Landgate 2000
- Narrogin 80cm Orthomosaic - Landgate 2005
- Corrigin 80cm Orthomosaic - Landgate 2005
- DEC Tenure - DEC

(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 ranging from 7000 to >35000 mg/L total dissolved solids. Significant clearing of native vegetation has already occurred within the local area for agricultural purposes, the clearing of 2ha across 10 road reserves is not likely to further increase groundwater salinity.

The proposed road widening and maintenance may result in the clearing of some riparian vegetation and as such may result in temporary localised sedimentation within the watercourses during the clearing process however, this is unlikely to cause long term deterioration to the quality of surface water in the local area. Therefore, this proposal is considered not likely to be at variance to this principle.

Methodology GIS Databases:

- Groundwater Salinity, Statewide - DoW
- Hydrography, linear (hierarchy) - DoW
- RiWI Act, Surface Water Areas, Irrigation Districts - DoW
- Topographic Contours, Statewide - DOLA and ARMY

(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

As the proposal is for the clearing of 2ha along 10 road reserves, the clearing will be linear and given the small scale of the proposed clearing, it is unlikely to cause or exacerbate the incidence or intensity of flooding. The proposal is not likely to be at variance to this principle.

Methodology GIS Databases

- Soils, Statewide - DA
- Hydrography, linear - DoW
- Hydrography, linear (hierarchy) - DoW

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

Comments

The application is for the clearing of 2ha of native vegetation within Bulyee Road reserve, Bullaring Road reserve, Hassell Road reserve, Hastings Road reserve, Napping Pool Road reserve, Shaddick Road reserve, Norm Road reserve, South Kweda Road reserve, Zig Zag Road reserve and Wickopin - Pingelly Road reserve, Shire of Pingelly Banksia, for the purpose of road construction and widening.

The application areas fall within the Surface Water 'Murray River System' and the 'Avon River Catchment' area covered by the Rights in Water and Irrigation Act 1914.

Town Planning Scheme zoned for road reserves.

Methodology References

- EPA (2000)
- GIS Databases:
 - Cadastre
 - Town Planning Scheme Zones
 - RIWI Act, Surface water areas, Irrigation districts
 - EPA Position paper No 2 Agricultural Region

4. References

- Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2007) DEC Fauna Habitat Notes.xls. February 2007. Department of Environment and Conservation, Western Australia.
- DEC (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/> (Accessed 18/08/2011).
- DEC (2011) Regional Advice for Clearing Permit Application CPS 4455/1, Road reserves, Sire of Pingelly. Department of Environment and Conservation, Western Australia (DEC Ref. A424533).
- 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.
- Shepherd, D.P. (2009) 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.

5. 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)