



1. Application details

1.1. Permit application details

Permit application No.: 2259/1
 Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Broomehill

1.3. Property details

Property: LOT 1 ON DIAGRAM 80128 (BROOMEHILL WEST 6318)
 WANDOO ROAD RESERVE (BROOMEHILL WEST 6318)
 RAILWAY RESERVE (BROOMEHILL WEST 6318)
 LOT 761 ON PLAN 227511 (BROOMEHILL WEST 6318)
 Local Government Area: Shire Of Broomehill

1.4. Application

Clearing Area (ha)	Method of Clearing	For the purpose of:
2.2	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	Clearing Description	Vegetation Condition	Comment
Beard: - Unit 4 (Beaufort): Medium forest; marri & wandoo; (Hopkins et al., 2001; Shepherd, 2006).	The proposal involves clearing approximately 2.2 hectares for the purpose of road construction. The purpose of clearing is to service several properties that currently have access only through rail reserve.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994) Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994) Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Description of the clearing application area is based on orthomosaic mapping.

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments **Proposal may be at variance to this Principle**
 The proposal is for the clearing of approximately 2.2 hectares for the purpose of road construction. The vegetation under application is considered to vary between completely degraded and good (Keighery, 1994).

 The proposal is located in an area that has been extensively cleared for agriculture and is recognised by the EPA (2000) as containing significant biodiversity. The local area (10 km radius) is heavily cleared with approximately 10% vegetation remaining. In addition, the area under application is mapped as the Beaufort vegetation complex, which retains less than 30% of the pre-European extent (Shepherd, 2006).

 Given the above, the proposal is unlikely to be at variance to this Principle as the completely degraded condition of the vegetation has significantly modified its biological value.

Methodology Keighery (1994);
 EPA (2000);

Shepherd (2006);

GIS Databases:

- CALM Managed Lands and Waters - CALM 1/6/04;
- Environmentally Sensitive Areas - DoE 30/5/05;
- EPA Position Paper No.2 Agriculture Region;
- Kojonup 50cm ORTHOMOSAIC - Landgate 06

(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

The proposal is for the clearing of approximately 2.2 hectares for the purpose of road construction. The vegetation under application is considered to vary between completely degraded and good (Keighery, 1994).

Several records of *Dasyurus geoffroii* (Chuditch) have been identified within 10 kilometres of the area under application. This species, recognised as Threatened pursuant to the Western Australian Wildlife Conservation Act 1950, occupies a wide range of habitats, however numbers have declined rapidly following land clearing and predation (DEC, Nature Base, 2008).

The local area (10 km radius) is heavily cleared with approximately 10% remaining.

This proposal is not likely to be at variance with this Principle as it is not considered to be a significant habitat due to the degraded condition of the applied area.

Methodology Keighery (1994);
DEC, Nature Base (2008)

GIS Databases:

- Threatened Fauna, SAC Bio Dataset - 22/8/07
- CALM Managed Lands and Waters - CALM 1/6/04;
- Kojonup 50cm ORTHOMOSAIC - Landgate 06

(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

Two populations of *Dryandra mucronulata* subsp. *mucronulata* (DRF) have been recorded within 15 kilometres of the area under application. This species is an erect, bushy, non-lignotuberous shrub that flowers in July to August, and occurs on clay and clay loams on both the flats and rocky hills (DEC, Flora Base, 2008).

The area under application is described as mostly hilly country with hard neutral and acidic yellow mottled soils, sometimes containing ironstone gravels (Northcote et al. 1960-68).

The local area (10 km radius) is heavily cleared with approximately 10% remaining; most of which is in private ownership. Road / rail reserves in such fragmented landscapes often provide the last refuges for species of plants that have become extinct in other locations; many declared rare species are known to exist in such reserves (RCC, 2002).

Advice from the Great Southern District (DEC, 2008) suggests that the likelihood of *D. mucronulata* existing within the applied area is unlikely due to the soil and vegetation types.

The presence of rare flora within the applied area is therefore considered and thus the proposal is not likely to be at variance to this Principle.

Methodology DEC, Flora Base (2008);
Northcote et al. (1960-68);
RCC (2002);

GIS Databases:

- DEFL, SAC Bio Dataset - 22/8/07;
- Soils, Statewide;
- Kojonup 50cm ORTHOMOSAIC - Landgate 06

(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

Two occurrences of the community type "Claypans with mid dense shrublands of *Melaleuca lateritia* over herbs" have been recorded within 43 kilometres of the area under application. This community type, which is recognised as a Priority 2 Ecological Community (PEC) by the DEC, occurs on both the coastal plain and the

adjacent plateau and is characterised by aquatic and amphibious taxa (TEC Database).

Given the characteristics of this community type is not consistent with the area under application; the proposed clearing is not likely to be necessary for the maintenance of a significant ecological community, and is therefore not likely to be at variance to this Principle.

Methodology GIS Databases:
 - TEC Database, SAC Bio Dataset - 22/8/07;
 - Threatened Ecological Communities - CALM

(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			
	Pre-European Area (ha)	Current extent (ha)	Remaining % reserves/DEC -managed land	% in
IBRA Region: - Southern Jarrah Forest	2,607,857	1,294,281	49.6*	33.2
Local Government Authority: - Shire of Broomehill	119,170	11,265	9.2*	3.3
Vegetation type: Beard: - Unit 4 (Beaufort)	1,054,316	245,361	23.3*	6.3

* (Shepherd, 2006)

The area under application is located in the Shire of Broomehill, which has been extensively cleared, with 9.2% (Shepherd, 2006) of the pre-European extent remaining. Beard Unit 4 is also poorly represented, with 23.3% of the pre-European extent remaining (less than 15% remaining within the Southern Jarrah Forest IBRA Region) (Shepherd, 2006).

The area under application is located within the agricultural zone referred to in the EPA's Position Statement No.2 (EPA, 2000). Although the proposal is not for agricultural purposes, the EPA does not support the further clearing of native vegetation within this area, particularly of vegetation types below the "threshold level" of 30% pre-clearing extent, unless alternative mechanisms address the protection of biodiversity.

Given the vegetation under application is representative of complexes below the "threshold level" and no alternative mechanisms to address the protection of biodiversity have been provided, the proposed clearing is considered significant remnant vegetation within an extensively cleared area, and is therefore at variance to this Principle.

If approved, offset conditions will be imposed to mitigate the impact of any vegetation loss.

Methodology Shepherd (2006);
 EPA (2000);

GIS databases:
 - Interim Biogeographic Regionalisation of Australia - EM 18/10/00;
 - Pre-European Vegetation - DA 01/01;
 - Local Government Authorities - DLI 8/7/04

(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 at variance to this Principle**
 The vegetation under application is not associated with a watercourse or wetland and is therefore not at variance to this Principle.

Methodology GIS Databases:
 - Hydrography, Linear - DoE 1/2/04;
 - Kojonup 50cm ORTHOMOSAIC - Landgate 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 area under application is described as mostly hilly country with hard neutral and acidic yellow mottled soils, sometimes containing ironstone gravels (Northcote et al. 1960-68).

The groundwater salinity is 14,000 to 35,000 mg/L and the hydrogeology consists of rocks of low permeability with local aquifers in fractured and weathered rocks.

Given the scale (2.2 ha), the proposed clearing is not likely to cause appreciable land degradation and therefore is not likely to be at variance to this Principle.

Methodology Northcote et al. (1960-68);

GIS Databases:

- Salinity Risk LM25m - DOLA 00;
- Hydrogeology, Statewide - DoW;
- Groundwater Salinity, 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 is not likely to be at variance to this Principle

The area under application does not lie within or adjacent to areas set aside for conservation and is not likely to impact on the environmental values of areas managed for conservation; the proposal is therefore not likely to be at variance to this Principle.

Methodology GIS Databases:

- Register of National Estate - EA 28/01/03;
- CALM Managed Lands and Waters - CALM 1/07/05

(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

The area under application is described as mostly hilly country with hard neutral and acidic yellow mottled soils, sometimes containing ironstone gravels (Northcote et al. 1960-68).

The groundwater salinity is 14,000 to 35,000 mg/L and the hydrogeology consists of rocks of low permeability with local aquifers in fractured and weathered rocks.

The slope of the land under application is 360 to 370 metres AHD (Australian Height Datum) over 1 kilometre.

Despite the soils containing gravel; given the scale (2.2 ha) the proposed clearing is not likely to cause deterioration in the quality of surface or underground water and is therefore not likely to be at variance to this Principle.

Methodology Northcote et al. (1960-68);

GIS Databases:

- Hydrographic Catchments, Catchments - DoW;
- Topographic Contours, Statewide - DOLA 12/9/02;
- Groundwater Salinity, Statewide - DoW;
- Hydrogeology, Statewide - DoW

(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 scale (2.2 ha) and height above sea level (360 ? 370 metres AHD), the proposed clearing is unlikely to cause or exacerbate the incidence or intensity of flooding and is therefore not likely to be at variance to this Principle.

Methodology GIS Databases:

- Topographic Contours, Statewide - DOLA 12/9/02

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

Comments

The proposal is to enable access to five individual landowners' properties (current access is via rail reserve). The area, which previously was farm land, has recently been gazetted as road reserve under the Shire of Broomehill TPS.

No public submissions have been received to date for this proposal.

Methodology

4. Synopsis

Purpose	Method Applied	area (ha)/ trees	Comment
Road construction oRemoval maintenance	Mechanical	2.2	The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing: - is at variance to Principle (e); - may be at variance to Principles (a), (b) and (c); and - is not or is not likely to be at variance to the remaining clearing Principles.

5. References

- Department of Environment and Conservation (DEC), Flora Base (2008) <http://florabase.dec.wa.gov.au/browse/profile/13619>. (Retrieved 26 February 2008). Depart
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- Environmental Protection Authority (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. Enviro
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press. Hopkir
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- DEC (2008) Regional Advice, e-mail, 26 March 2008, <department of Environment and Conservation Great Southern District> TRIM REF DOC49679 Roads
- Roadside Conservation Committee Western Australia (RCC) (2002). Assessing Roadsides: A Guide for Rating Conservation Value, Perth, Western Australia. Sac Bi Sheph
- Sac Bio Datasets (22/8/07). Department of Environment and Conservation, Sac Bio Datasets, Kensington, Western Australia.
- Shepherd, D.P. (2006). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.

6. Glossary

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