



1. Application details

1.1. Permit application details

Permit application No.: 2181/2
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Donnybrook Balingup

1.3. Property details

Property: NELSON LOCATION 820 (SOUTHAMPTON 6253)
ROAD RESERVE (SOUTHAMPTON 6253)

Local Government Area: Shire Of Donnybrook-Balingup

Colloquial name: Southampton Road Reserve

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.32		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
<p>The area under application is to clear 0.32ha of native vegetation for the purpose of road widening. Much of the area adjoining the application is state forest. Aerial photography shows the vegetation within the application area to be of very good condition (Keighery, 1994). Photographs and vegetation survey supplied by the Shire of Donnybrook Balingup (2007), show that the application area consists predominately of mature Eucalypt and Corymbia species, mid storey, understorey growth and less than 20% weed species on both sides of the existing road.</p>	<p>The area under application is to clear 0.32ha of native vegetation for the purpose of road widening. Much of the area adjoining the application is state forest. Aerial photography shows the vegetation within the application area to be of very good condition (Keighery, 1994). Photographs and vegetation survey supplied by the Shire of Donnybrook Balingup (2007), show that the application area consists predominately of mature Eucalypt and Corymbia species, mid storey, understorey growth and less than 20% weed species on both sides of the existing road.</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p>	<p>Vegetation condition was determined from photographs supplied by the Shire of Donnybrook Balingup (2007) and aerial photography.</p>

Beard vegetation association 3: Medium forest; jarrah-marri

Mattiske vegetation association:

BL - Balingup: Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla on slopes and woodland of Eucalyptus rudis on the valley floor in the humid zone.

HR - Hester: Tall open forest to open forest of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla* on lateritic uplands in perhumid and humid zones.

Hedde vegetation association:

Dwellingup and Hester Complex (High Rainfall, Central and South): Open-forest; jarrah-marri.

Balingup Complex in medium to high rainfall: central and south

Bridgetown complex in medium to high rainfall

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 vegetation under application is to be cleared for road widening on Southampton Road Reserve, Donnybrook. Aerial and ground level photos suggest that the 0.32ha of vegetation proposed to be cleared, consists of vegetation in very good condition (Keighery, 1994). Much of the area adjoining the application is state forest. Photographs and a vegetation survey supplied by the Shire of Donnybrook Balingup (2007), show that the application area consists predominately of mature Eucalypt and *Corymbia* species, mid storey, understorey growth and less than 20% weed species on both sides of the existing road.

Grevillia ripicola, a Priority 4 listed flora species (located 4.2km east of the application area), is not believed to be under immediate threat of extinction. It is a shrub of 0.6 to 2m high (WA Herbarium, 2007) and was recorded in the Bridgetown vegetation complex which is the same as the application area, but in a different soil type. *G. ripicola* thrive well in sandy clay, clay or gravelly loam (WA Herbarium, 2007), whereas the soil within the application area consist predominately of hard neutral red soils and acidic red soils (Northcote et al., 1960).

The proposed clearing area is representative of the Balingup (BL) vegetation complex, which has a high priority (24% pre-European extent remaining) for biodiversity reservation. The removal of road side vegetation may cause edging effects to the vegetation in the adjoining state forest, including the Balingup vegetation complex. There is no evidence to suggest that the vegetation under application represents a higher level of biodiversity than other native vegetation in the local area.

Given the low vegetation representation of the Balingup vegetation complex, the application area may be at variance to this principle.

Methodology Keighery (1994)
Shire of Donnybrook Balingup (2007)

GIS Layer:
- Mattiske vegetation

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments **Proposal is not likely to be at variance to this Principle**

There are two known records of threatened or priority fauna within the local area (5kms). A *Phascogale tapoatafa* sp. (Brush-tailed Phascogale) was sighted 3.6km north of the proposed clearing area and a *Dasyurus geoffroi* (Chudich) was recorded 3.6km east of the application area. Both species are listed as vulnerable.

The road reserve in which the proposed clearing is to be undertaken is surrounded on both sides by dense native vegetation, spreading 2kms west of the application and further on the east, both in excellent condition (Keighery, 1994).

Chuditch's are known to utilise a wide variety of habitats within the Jarrah Forest region, in particular riparian vegetation which supports the densest populations (DEWR, 2007). Although there are two minor perennial

watercourses that intersect with the application area, the excellent vegetation condition within the adjoining state forest is likely to be favoured by the Chuditch.

The tree dwelling Phascogale reside in mature trees with hollows such as Eucalyptus species (DEC, 2007). Although the roadside survey conducted by the shire notes large trees with hollows in the application area, the thick vegetation contained in the adjacent state forest is in better condition to the fringing roadside vegetation and would appear to be better habitat for this fauna species.

Given the small, linear size of the application area and the distance from the recorded fauna sightings, the proposed clearing is not likely to be at variance to this principle.

Methodology
 DEC (2007)
 DEWR (2007)
 Keighery (1994)
 Shire of Donnybrook-Balingup (2007)
 GIS Layers:
 - Sac Bio Datasets 051207

(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 known records of rare or priority flora record within the area under application, nor in the local area (5kms).

It is unlikely that the vegetation proposed to be cleared includes or is necessary for the continued existence of rare flora.

Methodology
 Northcote et al. (1960)
 WA Herbarium (2007)
 GIS Layers:
 - Sac Bio Datasets 051207

(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 records of threatened ecological communities or priority ecological communities identified within the local area (5km radius) of the proposed clearing.

The closet threatened community is SCP3a (Eucalyptus calophylla - Kingia australis woodlands on heavy soils, Swan Coastal Plain) approximately 39kms west of the proposed clearing site. As the chief soils of the application area consist of hard neutral red soils and acidic red soils (Northcote, 1960) and not clays or silt (heavy soils) it is unlikely that the threatened community falls within the application area.

Therefore, the proposed clearing is not likely to be at variance to this principle.

Methodology
 Northcote et al. (1960)
 GIS Layers:
 - Sac Bio datasets 061207

(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**

	Pre-European (ha)	Current extent (ha)	Remaining (%)	Pre-European extent in IUCN 1-4 (%)
IBRA Bioregions****				
Jarrah Forest^	4,506,654	2,425,331	53.4	14.0
Shire*				
Donnybrook-Balingup	156,025	90,979	58.3	5.0
Mattiske Vegetation Complex**				
HR	-	-	82.3	
BL	-	-	24.0	
Beard Vegetation Complex***				
3	2,661,403	1,846,589	69.4	26.4

* (Shepherd et al. 2006)

** (Mattiske Consulting 2002)

The 0.32 ha of native vegetation under application falls within the IBRA Bioregion of Jarrah Forrest and the Shire of Donnybrook Balingup; these complexes still maintain 53.4% and 58.3% respectively (Shepherd et al., 2006). The beard unit that the proposed clearing area falls within, has a current extent remaining of 69.4%.

The State Government is committed to the National Objectives Target for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-1750 (EPA, 2000).

The Mattiske vegetation complex Balingup (BL) is below the 30%, having only 24% pre-European vegetation remaining respectively (Mattiske 2002). The condition of the vegetation within the road reserve proposed to be cleared is very good (Keighery 1994). Additionally, the remnant of which the clearing is a part, is significant due to its size and the east west linkage it provides to other remnants in a 50% cleared local area (5km radius).

Given the above, the proposed clearing may be at variance to this principle. Weed and dieback management conditions will be placed on the permit to ensure this remnant is not degraded.

Methodology
EPA (2000)
Keighery (1994)
Mattiske Consulting (2002)
Shepherd et al. (2006)
GIS Layer:
- Mattiske Vegetation (01/03/1998)
- Pre European Vegetation - DA 01/01

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments **Proposal is not likely to be at variance to this Principle**
The application is to clear 0.32 ha of native vegetation for road widening and sealing. One major perennial watercourse, Blackwood River is located 2.7kms southwest of the proposed clearing application.

Two minor perennial watercourse cut through the proposed clearing area in a eastwest direction. From aerial photography it appears that the watercourse has been diverted through a culvert.

Given the small scale of clearing, the proposed clearing is unlikely to further degrade any watercourse or water quality within the area.

Methodology
GIS Layer:
- Hydrography linear (hierarchy) - DoW 13/7/06

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments **Proposal is not likely to be at variance to this Principle**
The area in which the application is situated on consists of a generally hilly relief with elevation rising from 155-190 AHD, and contains hard neutral and acidic red soils (Northcote et al., 1960).

The mean annual rainfall of the proposed clearing area is 900mm. Groundwater salinity has been mapped between 500-1000mg/L TDS (Total dissolved solids) which gives it a marginal water quality class.

The proposed clearing of the roadside may cause some short term land degradation issues in terms of localised flooding and soil erosion during works. However this issue should be minimised as the existing road has in place roadside infrastructure to prevent land degradation associated with roads i.e. table drains and culverts. Given this, the proposed clearing is not likely to cause appreciable land degradation.

Methodology
Northcote et al., (1960)
GIS Layer
- Groundwater Salinity Statewide DoW 13/07/06
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

(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 at variance to this Principle**
The closet conservation reserves to the clearing application area are the Greenbushes State Forest (directly adjacent to both east and west sides of Southampton Road), a timber reserve (approximately 1.5km) and Greenbushes Nature Reserve (approximately 2.9km).

As Greenbushes State Forest is adjacent to the application area, any clearing within the road reserve of

Southampton Road will have an impact on the environmental values of the conservation reserve. Impacts include edge effects such as the intrusion of weeds into the state forest.

Given the above, the proposed clearing may be at variance to this principle. Weed and dieback management conditions will be placed on the permit to ensure the conservation reserve is not degraded.

Methodology GIS Layer
- CALM Managed Lands and Waters - CALM 01/06/05

(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 proposed clearing is within the Hardy Estuary - Blackwood River Hydrographic Catchment Area. The area has a mean annual rainfall of 900mm with an evapotranspiration rate of 800mm/year. The proposed area is of moderate relief (155-190m AHD) and groundwater salinity levels classified as low, and mapped at 500-1000mg/L.

Two minor perennial watercourse cut through the proposed clearing area in a east-west direction. The proposed clearing of the roadside may cause some short term water quality issues in terms of localised surface water sedimentation during works. However these issues should be minimised as the existing road has in place roadside infrastructure to prevent water quality issues associated with roads. From aerial photography it appears that the watercourse has been diverted through a culvert.

Due to the small area proposed to be cleared it is unlikely that the clearing of native vegetation in the area under application would exacerbate existing salinity issues or cause deterioration in the quality of surface water or groundwater within the local area.

Methodology GIS Layer:
- Evapotranspiration Isopleths - WRC 29/09/98
- Groundwater salinity Statewide DoW 13/07/06
- Hydrographic Catchment, catchments - DoW 01/06/07
- Rainfall, mean annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

(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 hydrogeology of the area is predominately Gneiss and Migmatite rocks of low permeability, which can assist in intensifying flooding if an abundance of vegetation is cleared. Though, as the area proposed to be cleared is surrounded by dense native vegetation, spreading up to 2kms west of the application area and even further east, flooding is highly unlikely.

Furthermore, given the small, linear area of the vegetation to be cleared it is unlikely that the clearing will cause or exacerbate flooding within the local area.

Methodology GIS Layer
- Hydrogeology, statewide ? DOW 13/07/06

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

Comments

A submission was received from the public (2007) against granting a permit for native vegetation clearance on Southampton Road, stating that the Shire of Donnybrook Balingup has given no reason for widening Southampton Road and are concerned about what precautions the shire will take to ensure weeds are not introduced into the area. To address these concerns, if clearing is granted, weed conditions will be placed on the permit. Furthermore, the purpose of the application is not an assessable principle and therefore reasoning behind the need for road widening is not taken into the assessment.

Methodology Public Submission (2007)
GIS Layers:
- Native Title Claims - LA 2/5/07

4. Assessor's comments

Comment

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 be at variance to Principle (a), (e) and (h) and is not likely to be at variance to the remaining clearing Principles.

5. References

- DEC (2007). Information on the Phascogale. Department of Environment and Conservation. Western Australian Government. Sited at www.naturebase.net on 23rd November 2007.
- DEWR (2007). Chuditch Recovery Plan 1992-2001. Department of the Environment and Water Resources. Australian Government. Cited on 21/12/07 at <http://www.environment.gov.au>
- 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.
- Mattiske Consulting (2002). Review of Management Options for Poorly Represented Vegetation Complexes. Mattiske Consulting 2002
- 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.
- Public Submission (2007). DEC Trim Ref: DOC40797
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001a) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia (updated 2005).
- Shire of Donnybrook Balingup (2007). Photographs and vegetation survey. Shire of Donnybrook Balingup 2007. Local Government Authority. Western Australia. DEC Trim Ref: DOC38437
- WA Herbarium (2007). Department of Environment and Conservation. 2007. Sited on 19/11/07 at <http://florabase.dec.wa.gov.au/>

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)