



1. Application details

1.1. Permit application details

Permit application No.: 2673/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Collie

1.3. Property details

Property: STATE FOREST 15 (WORSLEY 6225)
ROAD RESERVE (ALLANSON 6225)
ROAD RESERVE (ALLANSON 6225)
ROAD RESERVE (ALLANSON 6225)
ROAD RESERVE (ALLANSON 6225)
ROAD RESERVE (ALLANSON 6225)
Local Government Area: Shire Of Collie & Shire Of Harvey
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.7		Mechanical Removal	Road construction or maintenance
		Mechanical Removal	Road construction or maintenance
		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 Vegetation Association: 3 - Medium forest; jarrah-marri (Shepherd, 2007; Hopkins et al., 2001)	The proposal is for the clearing of 1.7ha of native vegetation within Mornington Rd, Worsley Back, Montgomery and Buckle Road reserves for the purpose of road maintenance.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The vegetation condition was determined by DEC officers during a site inspection of the applied areas (Site Visit Report, 2008)
Mattiske Vegetation Complex: MJ (Muja) - Open woodland of Melaleuca preissiana-Banksia littoralis-Banksia ilicifolia with some Eucalyptus patens on moister sites, s24 Banksia spp. on drier sites of valley floors in the subhumid zone. (Mattiske Consulting, 1998)	The vegetation within the applied area along Mornington Road and parts of Worsley Back, Montgomery and Buckle Roads are in good (Keighey, 1994) condition.		
My1 (Murray) - Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Eucalyptus patens on valley slopes to woodland of fs24 Eucalyptus rudis-Melaleuca raphiophylla on the valley floors in humid and subhumid zones. (Mattiske Consulting, 1998)			

Yg1 (Yarragil) - Open forest of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla* on slopes with mixtures of *Eucalyptus patens* and *Eucalyptus megacarpa* on the valley floors in humid and subhumid zones. (Mattiske Consulting, 1998)

D1 (Dwellingup) - Open forest of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla* on lateritic uplands in mainly humid and subhumid zones. (Mattiske Consulting, 1998)

C1 (Cowaramup) - Open to tall open forest of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla*-*Banksia grandis* on lateritic uplands in the hyperhumid zone. (Mattiske Consulting, 1998)

Beard Vegetation Association:
3 - Medium forest; jarrah-marri
(Shepherd, 2007; Hopkins et al., 2001)

The proposal is for the clearing of 1.7ha of native vegetation within Mornington Rd, Worsley Back, Montgomery and Buckle Road reserves for the purpose of road maintenance.

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)

The vegetation condition was determined by DEC officers during a site inspection of the applied areas (Site Visit Report, 2008)

Mattiske Vegetation Complex:
MJ (Muja) - Open woodland of *Melaleuca preissiana*-*Banksia littoralis*-*Banksia ilicifolia* with some *Eucalyptus patens* on moister sites, s24 *Banksia* spp. on drier sites of valley floors in the subhumid zone. (Mattiske Consulting, 1998)

The vegetation within the applied areas along Worsley Back, Montgomery and Buckle Roads are predominately in degraded (Keighey, 1994) condition with parts of the applied areas improving to good (Keighery, 1994) condition.

My1 (Murray) - Open forest of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla*-*Eucalyptus patens* on valley slopes to woodland of fs24 *Eucalyptus rudis*-*Melaleuca rhapsiophylla* on the valley floors in humid and subhumid zones. (Mattiske Consulting, 1998)

Yg1 (Yarragil) - Open forest of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla* on slopes with mixtures of *Eucalyptus patens* and *Eucalyptus megacarpa* on the valley floors in humid and subhumid zones. (Mattiske Consulting, 1998)

D1 (Dwellingup) - Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla on lateritic uplands in mainly humid and subhumid zones. (Mattiske Consulting, 1998)

C1 (Cowaramup) - Open to tall open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Banksia grandis on lateritic uplands in the hyperhumid zone. (Mattiske Consulting, 1998)

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 clearing as proposed is for the removal of 1.7ha of native vegetation within Mornington, Buckle, Montgomery and Worsely Back Road Reserves for the purpose of road maintenance.

The vegetation under application ranges from degraded to good (Keighery, 1994) condition.

The local area retains approximately 85% native vegetation, with 80%-90% within DEC managed lands (Hopkins et al., 2001).

The vegetation under application is not considered to have a high level of biological diversity, in relation to surrounding areas of vegetation, due to the condition and location (close proximity to road side) of the vegetation under application (Site Visit Report, 2008).

Therefore the clearing as proposed is not likely to be at variance to this principle as the vegetation under application is not likely to contain a high level of biodiversity in a local context.

Methodology **References:**
Keighery (1994)
Hopkins et al. (2001)
Site Visit Report (2008)

GIS Database:
CALM Managed Lands and Waters CALM 01/06/05
SAC Biodatasets - accessed 24 September 08
Mattiske Vegetation (01/03/1998)
Hedde Vegetation Complexes - DEP 22/06/95
Pre European Vegetation - DA 01/01
NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(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**

The areas applied to be cleared are in degraded to good (Keighery, 1994) condition.

The local area (10km radius from applied areas) retains approximately 85% native vegetation, 80% to 90% of which is within DEC (Department of Environment and Conservation) managed lands (official and unofficial) (Hopkins et al., 2001).

Given that the local area is well vegetated and taking into account that there is vegetation nearby in better condition, the vegetation under application is not significant vegetation for fauna indigenous to Western Australia.

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

Methodology **References:**

Keighery (1994)
Hopkins et al. (2001)

GIS Database:
CALM Managed Lands and Waters CALM 01/06/05
Mattiske Vegetation (01/03/1998)
SAC Biodatasets - accessed 24 September 08
Heddle Vegetation Complexes - DEP 22/06/95
Pre European Vegetation - DA 01/01

(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 is one record of rare flora within the local area, namely *Grevillea rara* (closest record 9.1km north east of Worsley Back Road). This species is known to occur along creeklines in lateritic loam soils (WA Herbarium, 2008). The applied area to clear around the northern end of Worsley Back Road is approximately 15m from a minor perennial watercourse, however, a site visit of this area observed that the vegetation under application was not associated with the watercourse, thus there is a low likelihood of *G. rara* occurring within the applied area (site visit report, 2008).

Therefore the clearing as proposed is not likely to be at variance to this principle as no rare flora are likely to occur within the applied areas.

Methodology

References:
Site Visit Report (2008)

GIS Database:
Mattiske Vegetation (01/03/1998)
Heddle Vegetation Complexes DEP 22/06/95
Pre European Vegetation - DA 01/01
SAC Biodatasets - accessed 24 September 08
Soils, Statewide DA 11/99

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

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

There are no known Threatened Ecological Communities (TECs) recorded within the local area (10km radius).

Therefore the clearing as proposed is not likely to be at variance to this principle as the vegetation under application is not part of a known TEC and is not considered necessary for the maintenance of a known TEC.

Methodology

GIS Database:
SAC Biodatasets - accessed 24 September 08

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

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

Pre-European area (ha)	Current extent (ha)	Remaining %% in reserves/DEC-managed land	
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IBRA Bioregion **

- Jarrah Forest	4,671,007	2,601,026	55.68	41.36
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Shire of Collie*		170,245	144,173	84.69	88.74
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Beard vegetation associations**

- 3	2,661,405	1,863,719	70.03	58.23
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Mattiske Vegetation units***

- MJ	102,018	71,998	70.6
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	N/A				
- My1		686,104	585,544	85.3	N/A
- Yg1		800,603	703,654	87.9	N/A
- D1		2,082,806	1,936,288	93	N/A
- C1		189,838	75,049		39.5
	N/A				

* (Shepherd et al., 2001; Hopkins et al., 2001)

** (Shepherd, 2007)

*** (Mattiske Consulting, 1998)

The local area (10km radius from applied areas) retains approximately 85% native vegetation, 80% to 90% of which is within DEC managed lands (official and unofficial) (Hopkins et al., 2001).

Given that the vegetation under application is well represented statewide, and taking into account the high native vegetation retention of the local area, the vegetation under application is not a significant remnant in an extensively cleared landscape.

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

Methodology References:
Hopkins et al. (2001)
Mattiske Consulting (1998)
Shepherd et al. (2001)
Shepherd (2007)

GIS Database:
CALM Managed Lands and Waters - CALM 01/06/05
Hedde Vegetation Complexes - DEP 22/06/95
Interim Biogeographic Regionalisation of Australia - EA 18/10/00
Local Government Authorities - DLI 8/07/04
Mattiske Vegetation - CALM 1/03/1998
Pre European Vegetation - DA 01/01
SAC Biodatasets - accessed 24 September 08
NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(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

The clearing as proposed includes the clearing of roadside vegetation along Mornington, Montgomery, Worsley Back and Buckle Roads.

The proposed clearing along Mornington Road runs adjacent to a minor perennial watercourse and the northern end of the proposed clearing is also within the mapped course of Brunswick River. During a site visit (DEC 2008) it was observed that some of the vegetation within the applied area of Mornington Road is in association with the nearby watercourse, however, there are currently culverts and drainage in place to manage the water flow under the road. Any proposed clearing near the water course will be minimal with short terms effects and the existing infrastructure will maintain the flow of the watercourse.

The proposed clearing along Worsley Back Road and Montgomery and Buckle Roads are both located approximately 15m from a mapped minor perennial watercourse and a site visit observed that none of the proposed clearing along these roads included vegetation in association with a watercourse (site visit 2008).

Methodology References:
Site Visit Report (2008)

GIS Database:
Hydrography linear - DOW 13/7/06
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 areas under application are within Country Areas Water Supply Act zone B, C and D. This legislation is in place to protect drinking water catchments from the effects of salinity. CAWSA Guidelines recommend offset

conditions be imposed to mitigate the loss of vegetation. Advice from the Department of Water (who administer the CAWS legislation) stated that past licenses to the Shire have not required offsetting from road construction. Additionally, the applied area includes a small number of deep rooted trees and is predominately for the clearing of shrubby trees.

The proposal is to clear predominately degraded (Keighery, 1994) vegetation and taking into account that the area is small (1.7ha total over 4 roads), the clearing as proposed is not likely to result in any other forms of land degradation.

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

Methodology GIS Database:
Average Annual Rainfall Isohyets - WRC 29/09/98
Annual Evaporation Contours (Isopleths) - WRC 29/09/98
Hydrogeology, statewide DOW 13/07/06
Soils, Statewide DA 11/99
Topographic contours statewide DOLA and ARMY 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 may be at variance to this Principle

The proposed clearing along Mornington Road reserve is within Harris River State Forest (unofficial), and a site inspection of the applied area identified a number of weed species within the areas applied to be cleared.

It is therefore likely that clearing of the Mornington Road reserve will impact on the environmental values of the Harris River State Forest through the spread of these weeds into the unofficial state forest.

Therefore the clearing as proposed may be at variance to this principle as clearing of the vegetation under application may result in weed invasion into conservation areas causing deterioration of the environmental values within the Harris River State Forest (unofficial).

Weed management conditions will be placed on the permit to mitigate impacts of clearing on Harris River State Forest (unofficial).

Methodology References:
Site Visit Report (2008)

GIS Database:
CALM Managed Lands and Waters CALM 01/06/05
Register of National Estate Environment Australia, Australian and world heritage division 12 Mar 02

(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 areas under application are within Country Areas Water Supply Act zone B, C and D. This legislation is in place to protect drinking water catchments from the effects of salinity. CAWSA Guidelines recommend offset conditions be imposed to mitigate the loss of vegetation. Advice from the Department of Water (who administer the CAWS legislation) stated that past licenses to the Shire have not required offsetting from road construction. Additionally, the applied area includes a small number of deep rooted trees and is predominately for the clearing of shrubby trees.

The proposed clearing along Mornington Road runs adjacent to a minor perennial watercourse and the northern end of the proposed clearing is also within the mapped course of Brunswick River. During a site visit (DEC 2008) it was observed that some of the vegetation within the applied area of Mornington Road is in association with the nearby watercourse, however, there are currently culverts and drainage in place to manage the water flow under the road. Any proposed clearing near the water course will be minimal with short terms effects, such as turbidity and sedimentation. The existing infrastructure will maintain the flow of the watercourse.

Given that the clearing is small (1.7ha) over 4 roadways and taking into account the condition of the vegetation, clearing of the applied areas is not likely to impact on the quality of surface or groundwater within the Leschenault Estuary/Lower Collie or Wellington Dam/Collie River catchments.

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

Methodology References:
Keighery (1994)
Site Visit Report (2008)

GIS Database:
 Hydrographic catchments, catchments - DoW 01/06/07
 Hydrographic catchments, subcatchments - DoW 01/06/07
 Hydrography, linear - DOW 13/7/06
 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**
 As the purpose for clearing is maintenance of roadside vegetation and taking into account that the area under application is small (1.7ha over 4 roads), the clearing as proposed is not likely to cause or exacerbate the incidence or intensity of flooding.

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

Methodology GIS Database:
 Hydrography, linear - DoW 13/7/06
 Topographic Contours, Statewide - DOLA 12/09/02

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

Comments The vegetation proposed to be cleared is within local roads vested with the Shire of Collie.

Methodology

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 is at variance with principle (f), may be at variance to (h) and is not likely to be at variance to principles (a), (b), (c), (d), (e), (g), (i) and (j).

5. References

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.
 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, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.
 Shepherd, D.P. (2007). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
 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.
 Site Visit Report (2008) CPS 2673/1 Site Inspection Report and Photos. Unpublished, Department of Environment and Conservation Trim Ref DOC63916

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)