



1. Application details

1.1. Permit application details

Permit application No.: 1471/1
 Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Cuballing

1.3. Property details

Local Government Area: Shire Of Cuballing
 Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
5		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
Cuballing Road East Beard Vegetation Association: - 947: Medium woodland; powderbark & mallet	Proposed clearing Includes the removal of vegetation within the north side of the road reserve, approximately 3.5 metres from the bitumen edge, for the purpose of road widening. Vegetation within the northern portion of the road reserve consists of <i>Eucalyptus loxophleba</i> , <i>E. wandoo</i> , <i>Acacia acuminata</i> , and <i>Allocasuarina sp.</i> This vegetation is considered to range from completely degraded to degraded condition, as understorey species were absent for the majority of the area under application. Some relatively large hollows were observed within mature <i>E. wandoo</i> along the roads length.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Vegetation clearing description based on information obtained during the site inspection undertaken Thursday 19 October 2006.
Cuballing Road West Beard Vegetation Association: - 947: Medium woodland; powderbark & mallet	Proposed clearing includes the removal of vegetation to an approximate distance of 3 metres from the existing bitumen edge, for the purpose of road widening. Clearing is proposed to coincide with exempt clearing undertaken on adjacent farming land, for the purpose of fence line construction, enabling a larger area of vegetation to remain on one side of the road reserve. Vegetation clearing is proposed to alternate between the northern and southern verges, enabling the selective removal of vegetation in lower quality. This vegetation is considered to range from completely degraded to degraded condition, as understorey species were absent for the majority of the area under application. Some relatively large hollows were observed within mature <i>E. calophylla</i> and <i>E. wandoo</i> along the roads length.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Vegetation clearing description based on information obtained during the site inspection undertaken Thursday 19 October 2006.
Stratherne / Parsons Road Beard Vegetation Association: - 947: Medium woodland; powderbark & mallet	The proposal includes the removal of approximately 15 trees for the re-alignment of Parsons Road, and the construction of a T-junction intersection between Parsons Road and Stratherne Road. Vegetation in the area under application consists of <i>E. calophylla</i> , <i>E. wandoo</i> , <i>Acacia acuminata</i> , and <i>Allocasuarina sp.</i> While overstorey vegetation in most areas was intact, understorey species were absent over the majority of the applied area. The vegetation proposed for removal is considered to range from completely degraded to degraded condition.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Vegetation clearing description based on information obtained during the site inspection undertaken Thursday 19 October 2006.

Popanyinning West	Road	Clearing of vegetation within the northern portion of the road reserve, to an approximate distance of 3 metres from the existing bitumen edge, for the purpose of road widening. The predominant vegetation of the road reserve consists of <i>E. loxophleba</i> , <i>E. wandoo</i> , <i>Acacia acuminata</i> , and <i>Allocasuarina sp.</i> , with a few individual <i>E. rudis</i> in one location adjacent to a minor watercourse. Vegetation in the road reserve is considered to be primarily in a degraded condition, with patches of good condition over an approximate 2 kilometres east of Napping Pool Road	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Vegetation clearing description based on information obtained during the site inspection undertaken Thursday 19 October 2006.
Beard Association:	Vegetation			
- 946:	Medium woodland; wandoo			
- 947:	Medium woodland; powderbark & mallet			

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 within the four road reserves in the Shire of Cuballing is degraded to completely degraded with the exception of Popanyinning Road West for approximately 2 kilometres east of the Napping Road intersection. The vegetation that is in a completely degraded to degraded condition lacks structure and would therefore be considered unlikely to be representative of areas of high biodiversity. Sections of the road reserve of Popanyinning Road West range from degraded to good in condition. This vegetation, while linear and thin in nature, may represent an area of higher biological diversity, especially when viewing the good condition vegetation within the local context. The clearing of the area of good condition along the Popanyinning Road West may be considered at variance to this principle.

Methodology Site inspection (18/10/2006)

(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 road reserves that are proposed to be cleared all have habitat value to fauna indigenous to Western Australia because of the linkage provided between remnants in an otherwise cleared and highly fragmented Wheatbelt landscape. The roadside vegetation is important for movement and dispersal and extending home ranges of some animals and birds (Roadside Conservation Committee 2006).

BCS advise that the roadside vegetation does not appear to contain canopy habitat that would be considered 'significant' for Red-tailed Phascogale nor does it appear to contain adequate understorey for other species such as Numbat, Carpet Python, Woylie, Bilby and Boodie (Shark Bay).

Tree hollows were observed in a number of mature Eucalypt species contained within the Cuballing East Road, Cuballing West Road, Popanyinning West Road reserves and the Stratherne Road/Parsons Road intersection. These hollows would be suitable for nesting by the threatened taxa *Calyptorhynchus baudinii* or *C. latirostris* (Two subspecies of White Tailed Black Cockatoos) and these trees should be retained wherever possible (BCS, 2006).

Given the potential for the applied vegetation to provide habitat hollows and ecological linkages for fauna, it is considered that it may comprise significant habitat for indigenous fauna but if shire does limited clearing to one side of the road reserve only, enabling the retention of vegetated corridors on the other side of the road reserve BCS advise the clearing would not be considered likely to be at variance with this principle.

Methodology BCS (2006)
Roadside Conservation Committee (2006)

(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

Within the local area (a 10km radius of all the applied areas) there are 41 records of 7 species of Declared Rare flora (DRF) and 52 records of 19 species of Priority flora (DEC 2006). These include the following DRF species;

- *Acacia insolita subsp. recurva*: Spindly shrub, 0.6-1.2 m high. Flowers yellow, cream. Lateritic ridges.
- *Anthocercis gracilis*: Erect, spindly shrub, to 0.6(-1) m high. Flowers yellow, green, Sep-Oct. Sandy or loamy soils. Granite outcrops.
- *Banksia cuneata*: Non-lignotuberous, small tree or shrub, 2-4 m high. Flowers pink, cream, yellow, Sep-Dec. Grey, yellow or yellow-brown sand.

- *Darwinia carnea*: Spreading shrub, 0.2-0.45 m high. Flowers green, red, Oct-Dec. Lateritic loam & gravel.
- *Eleocharis keigheryi*: Rhizomatous, clumped perennial, grass-like or herb (sedge), to 0.4 m high. Flowers green, Aug-Nov. Clay, sandy loam. Emergent in freshwater: creeks, claypans.
- *Pultenaea pauciflora*: Dense, much-branched shrub, to 0.8 m high. Flowers yellow, Oct-Nov. Sandy & clay lateritic soils. Undulating country.
- *Verticordia fimbriolepis* subsp. *fimbriolepis*: Shrub, 0.3-0.7 m high. Flowers pink, white, Oct-Jan. Gravelly sandy or clayey soils. Flats, road verges.

A drain containing wetland species was noted by the DEC officer on Popanyinning Road West (see CPS report Principle (f)) therefore habitat may be suitable for *Eleocharis keigheryi*. The soil types are briefly described within the Shire of Cuballing's supporting documentation: for three of the four roads it is described as gravel or sandy gravel with clay deposits close to the surface and for Cuballing West Road it is described as 'white sand with clay deposits close to the surface, one section has a small outcrop of granite rock covering approximately 5 square metres'. Given the small occurrence of granite rock at Cuballing West Road (noted above) habitat may also be suitable for *Anthocercis gracilis*. From these soil and vegetation types present and habitat preferences of the DRF and Priority species in the local area it is possible that DRF may occur within the road reserves (DEC 2006).

BCS advice (2006) identified that where road reserves with intact understorey existed and given the relatively high number of DRF and Priority flora within the local area appropriately timed spring surveys would be required to be undertaken as this proposal may be at variance with this principle.

Methodology
9y BCS (2006)
DEC (2006)

(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 occurrences of Threatened Ecological Communities (TEC) within close proximity to the areas of vegetation under application. The nearest known TEC are located approximately 25 kilometres to the south east, and are identified as Toolibin Threatened Ecological Communities, which are defined as 'Perched wetlands of the Wheatbelt region with extensive stands of living Swamp Sheoak (*Casuarina obesa*) and Paperbark (*Melaleuca strobophylla*) across the lake floor'.

Based on observations made during the site inspections on 18 October 2006, the vegetation under application is not considered likely to comprise, or be necessary for, the maintenance of a TEC.

Methodology DEC site visit 18/10/2006
DEC site visit 18/10/2006
GIS Database: Threatened Ecological Communities - CALM 12/4/05

(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 vegetation proposed to be cleared is predominantly identified as Beard vegetation association 947, which is broadly defined as medium woodland of *Eucalyptus wandoo*. This vegetation association is recognised as currently having a representation of 25.5% of its pre-European extent, with 55.8% in secure tenure (Shepherd et al. 2001).

The western 2 kilometre portion of Popanyinning Road West is identified as vegetation association 946, and broadly defined as a medium woodland of powderbark (*Eucalyptus accendens*) & mallee. This vegetation association is recognised as currently having a representation of 17% of its pre-European extent, with 39% in secure tenure (Shepherd et al. 2001). Both of these associations are considered to be at a 'vulnerable' level of representation (Department of Natural Resources and Environment, 2002).

As observed during the site inspection undertaken on 18 October 2006, vegetation within the applied areas is considered to be in degraded to completely degraded condition, with a lack of under and middle stories and obvious weed invasion. The western 2km portion of Popanyinning Road West, however, is considered to have patches of vegetation in good condition.

JANIS (1997) recommends a minimum level of 15% reservation for ecological communities. Given that the percentages of the vegetation associations within secure reserves is above this figure, the vegetation under application is considered unlikely to represent significant areas of native vegetation at a bioregion scale, but may be significant as a remnant in the local area.

The State Government is committed to the National Objective Targets for Biodiversity Conservation, which includes targets that prevent the clearing of ecological communities with an extent below 30% of that present pre-

1750 (Department of Natural Resources and Environment 2002; EPA 2000). Beyond this value, species extinction is believed to occur at an exponential rate and any further clearing may have irreversible consequences for the conservation of biodiversity.

Given that a portion of the applied vegetation is in good condition and is part of vegetation association of which there is less than the recommended minimum of 30% pre-European extent remaining, this proposal is considered at variance to this Principle.

It is therefore recommended that to offset the loss of this vegetation, conditions be placed on the permit requiring the replanting of vegetation to an area equivalent to the area of good vegetation cleared, namely 1 hectare.

reserves/DEC-	Pre-European area (ha)	Current extent (ha)	Remaining %	Conservation status**	% in managed land
Avon Wheatbelt	9,578,995	1,536,296	16%*	vulnerable	
Shire of Cuballing	117,351	23,324	19.9%*	vulnerable	
Beard vegetation associations			*		
- 946	97,259	17,377	17%	vulnerable	39% / 5.5%
- 947	38,193	9,735	25.5%	vulnerable	55.8% / 0%

* (Shepherd et al. 2001)
 ** (Department of Natural Resources and Environment 2002)

Methodology Shepherd et al. (2001)
 Department of Natural Resources and Environment (2002)
 EPA (2000)
 Site inspection (18/10/2006)

(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 at variance to this Principle

There are no major or minor water courses impacted by the proposed clearing within the subject road reserves.

The clearing of vegetation along Cuballing East Road, Cuballing West Road, and Stratherne / Parsons Road does not impact vegetation that is growing in or in association with a water course or wetland. The site inspection undertaken on 18 October 2006 did identify one drain on Popanyinning Road West which contained wetland species, namely *Eucalyptus rudis* and sedge species.

Given that a portion of the applied vegetation is associated with a watercourse the clearing of this vegetation is considered to be at variance with this principle.

Methodology Site inspection (18/10/2006)
 GIS Database:
 - Hydrography, linear - DOE 01/02/04

(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

Areas of vegetation under application are identified as containing two main soil types.

Cuballing Road East, Cuballing Road West, and Stratherne / Parsons Roads are in areas containing soils type 'Qb30'. These soils are hard neutral red soils and acidic red soils with associated are soils containing ironstone gravels.

Popanyinning Road West is located on soil type 'Uf1'. These soils are also defined as sandy, neutral, and also acidic, yellow mottled soils containing ironstone gravels.

The main land degradation risk associated with the removal of vegetation on these soils is considered to be water erosion; however the vegetation under application is of low density over ~16km within a moderate rainfall area, and thus the proposed clearing is considered unlikely to produce appreciable water erosion.

The majority of the applied roads are associated with a low salinity risk area, with the exception of Popanyinning Road West, which may have a low to moderate salinity risk around drainage lines. Given that the areas under application are relatively narrow and limited in scale, and spread over a relatively large area of the Shire of Cuballing, it is considered that the proposal is not likely to have an appreciable impact on

salinity in the area.

It is therefore not considered likely that the proposed clearing would result in appreciable land degradation.

Methodology Site Inspection (18/10/2006)
GIS Database:
- Salinity Risk LM 25m - DOLA 00
- Soils, Statewide - DA 11/99

(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

Of the areas under application, three of the applied areas are located in relatively close proximity to DEC Managed Lands. Cuballing Road West is located ~600m north of Rosedale Nature Reserve and ~900m northeast of Montague State Forest; Cuballing Road East is located ~1km south of Commodore Nature Reserve; and Popanyinning Road West is located ~3.3km north of Montague State Forest and ~5km south of Lol Gray State Forest.

The areas of vegetation under application are thin and linear in nature, predominantly in a completely degraded to degraded condition, although sections of Popanyinning Road West are recognised as being in good condition. Aerial photography of the Shire of Cuballing indicates the road reserves under application are not likely to provide ecological linkages to or between nearby conservation reserves.

The Shire of Cuballing have indicated that vegetation removal would be limited to one side of the road reserve only, enabling the retention of vegetated corridors to one side the road reserves, allowing the maintenance of ecological corridors.

Taking into account the extent of vegetation within the road reserves and the distribution of conservation reserves within the local area, the vegetation under application is considered unlikely to contribute to ecological linkages, provide buffers to, or provide habitat not well represented within conservation reserves within the Shire of Cuballing. The clearing as proposed is therefore considered unlikely to be at variance to this Principle.

Methodology Site Inspection (18/10/2006)
GIS Database:
- Corrigin South 1.4m Orthomosaic - DOLA 00
- CALM Managed Lands and Water - CALM 01/08/04

(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

There is a nil salinity risk over the majority of the applied areas, with the exception of some sections of road reserve that are associated with minor watercourse, which have a low to moderate risk of salinity. The areas under application are not located within any Public Drinking Water Source Areas.

The major watercourses in the area are the Hotham River, located approximately 1km southwest of Cuballing Road East; and approximately 4km north of Popanyinning Road West, and Fourteen Mile Brook Cuballing Road East which is located approximately 2.7km northeast of Cuballing Road West.

As the majority of the applied vegetation is within existing road reserves, additional clearing is not likely to significantly alter surface water flow regimes. Some temporary sedimentation of the nearby drainage lines may occur, however due to the low density of the applied vegetation, its removal is not likely to result in substantial deterioration of surface water quality. The proposal is therefore not likely to be at variance to this Principle.

Methodology DEC Site visit 18/10/2006
GIS Databases:
Acid Sulphate Soil Risk Map, SCP - DOE 04/11/04
Groundwater Salinity, Statewide - 22/02/00
Hydrography, linear (hierarchy) - 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

Flooding impacts are not likely to occur as a result of the proposed clearing due to the relatively small area of vegetation, which is spread over a relatively large area of the Shire of Cuballing. The proposed clearing is contained within existing road reserves and adjacent to land cleared historically for agriculture, at elevations

between 320m and 390m. Watercourses in the area include the Hotham River and Fourteen Mile Brook.

Given that the vegetation under application mostly comprises mature Eucalypt species distributed over long, thin areas, it is not considered likely that the proposed clearing would have an impact on peak flood height or duration.

Methodology Site inspection (18/10/2006)
 GIS Databases:
 - Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

A submission received from the Roadside Conservation Committee (RCC) provided the following advice:

- Cuballing Road West: Sections of the roadside vegetation mapped by RCC identified the area under application west of Gout Road is of medium to high conservation value, and that the vegetation may provide an ecological linkage to three patches of remnant vegetation and the dispersal / movement of flora and fauna.
- Cuballing Road East: Mapping indicates a medium to high conservation value along the entire length of the road. Due to little vegetation in the surrounding landscape, the roadside vegetation may provide a corridor for the movement and dispersal of flora and fauna, as well as potentially extending the home ranges of some animals and birds.
- Popanyinning Road West: Mapping shows roadside vegetation to be of high conservation value, and with little vegetation in the surrounding landscape may provide a corridor for the movement and dispersal of flora and fauna, as well as potentially extending the home ranges of some animals and birds.
- Stratherne / Parsons Road: As the proposed clearing is adjacent to a native vegetation remnant, the RCC do not have any issues with the proposed road widening on the condition it does not extend far beyond the edges of the remnant.

The RCC also advises that should the reasons for the proposed widening outweigh the ecological reasons of not removing vegetation, it is recommended that widening be limited to only one side of the road, thus retaining a greater width of vegetation on at least one side of the road reserve.

The areas under application are located within a Native Title Claim area. The majority of the applied area is contained within existing road reserves that are vested in the Shire of Williams, and the Shire will use their powers as delegated under the Local Governments Act to access private land for further construction of the roads. Therefore the clearing as proposed should not fall under the future acts process under the Native Title Act 1993.

Methodology GIS Database: Native Title Claims - DLI 7/11/05

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Road construction or maintenance	Mechanical Removal		<p>The assessable criteria have been assessed and the clearing as proposed is at variance to Principle f and may be at variance to Principles a, c and e.</p> <p>Principle (f): A portion of the vegetation under application contained on Popanyinning West Road and Cuballing West Road includes wetland dependent vegetation. The assessing officer therefore recommended that a condition be placed on the permit to ensure that revegetation of an equivalent area of wetland dependant vegetation is undertaken along watercourses within the local area</p> <p>Principle (a + c): A portion of Popanyinning Road West is in good condition and therefore may contain DRF and be representative of an area of higher biodiversity when viewed in a local context. The assessing officer therefore recommends that conditions requiring flora surveys along this road be conducted and clearing limited to one side of the road.</p> <p>Principle (e): A portion of the applied vegetation, including the section on Popanyinning West Road that is in good condition, is part of Beard vegetation association 1023. This association has less than the recommended minimum of 30% pre-European extent remaining. The assessing officer therefore recommended that a condition be placed on the permit to ensure the revegetation of an equivalent of good or better condition vegetation is completed during the life of the permit.</p> <p>The assessing officer therefore recommends that the permit be granted with conditions requiring revegetation of minimum of 1 hectare to offset the clearing of good vegetation the replanting of wetland dependant vegetation to minimise the impact associated with clearing of vegetation in association with a watercourse and a condition to manage dieback and weed dispersal.</p>

5. References

Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia. TRIM ref xxxxx

Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

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.

EPA (2003) Guidance for the Assessment of Environmental Factors -level of assessment of proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Report by the EPA under the Environmental Protection Act 1986. No 10 WA.

Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.

JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.

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., 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 19/10/2006, Department of Environment and Conservation (DEC), Western Australia. TRIM ref. DOC7722

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)

