



## 1. Application details

### 1.1. Permit application details

Permit application No.: 1278/1  
 Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Shire of Merredin

### 1.3. Property details

Property: LOT 684 ON PLAN 154038 (Lot No. 684 BATES MERREDIN 6415)  
 MERREDIN TOWNSITE LOT 1121 (Lot No. 1121 TELFER MERREDIN 6415)  
 MERREDIN TOWNSITE LOT 1170 (Lot No. 1170 TELFER MERREDIN 6415)  
 Local Government Area: Shire Of Merredin  
 Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.95		Mechanical Removal	Recreation
2.95		Mechanical Removal	Recreation
2.95		Mechanical Removal	Recreation

## 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
DEC GIS identified the area as Beard Association 141: Medium Woodland; York gum, salmon gum and gimlet (Hopkins et al. 2001, Shepherd et al. 2001). A site inspection confirmed that this is the vegetation association present at the site.	The proposed clearing totals 2.95 hectares to establish fairways and greens to permit relocation of Merredin Golf Club to new clubrooms at Lot 684 Bates Street, Merredin.  Areas within the vegetation under application were previously cleared in the 1970's, with the area now comprising of large areas of regenerated native species.  The property in question maintains a high level of vegetative cover, predominantly low allocasuarina (tammar) and acacia (wodjil) shrubs on gravelly soils, with scattered tree including wandoo, E. salmonophloia (salmon gum) and E. salubris (Gimlet) species indicating clay to clay loam subsoil.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	Vegetation clearing description based on information obtained from a DEC site inspection (TRIM ref: DOC10765) and information provided by the applicant (TRIM Ref: CRN219005)
	The vegetation is in a fairly good condition, relative to wheatbelt standards. Indicators of disturbance include an unsealed track that runs around the main oval, as well as informal and poorly maintained walktrails (DEC Land for Wildlife Officer, 2006; TRIM ref: DOC10765).		

## 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 consists of remnant and regenerating native vegetation and is located on the outskirts of the town of Merredin.

The Shire of Merredin has 11.8% Pre-European extent remaining (38,551 ha).

The Biodiversity Coordination Section (BCS) (2006) have advised that an informal flora survey of the area identified 67 plant species, including *Verticordia mitodes*, a Priority 3 species. A site inspection undertaken by DEC identified the condition of the vegetation within the applied areas as varying from good to degraded. It was noted that the area that is proposed to be cleared contains a number of mature Salmon Gums.

The biodiversity values of the vegetation that is proposed to be cleared have been altered by a range of historic land uses. In the event that a permit is issued, it should specifically exclude any mature Salmon Gums from being cleared. The proponent has agreed to revegetate 3 hectares of degraded ground adjacent to the area that has been applied to be cleared.

**Methodology** Biodiversity Coordination Section (2006) (TRIM ref: DOC 8739)  
DEC Land for Wildlife Officer Site inspection (2006) (TRIM ref: DOC 10765)  
DEC NVCB site inspection 18 & 19 November 2007 (TRIM ref DOC41969).

Shepherd et al. (2001)

GIS Databases:

- EPA Position Paper No 2 Agriculture Region - DEP 12/00

- Merredin Westonia 1.4. Orthomosaic - DLI 99

- Bruce Rock 1.4. Orthomosaic - DOLA 01

**(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**

Biodiversity Coordination Section (2006) identified that a record of the Tree Stem Trapdoor Spider (*Aganippe castellum*), a Schedule 1 species (Fauna that is rare or is likely to become extinct), occurs within 1km of the proposed clearing location. A targeted inspection of the area was coordinated by DEC Merredin on 2 August 2007, where upon it was concluded that the Tree Stem Trapdoor Spider does not occur at this site.

BCS (2006) also identified the potential for Malleefowl to utilise the area as a corridor for movement to other areas for breeding, nesting and/or foraging. Malleefowl surveys have recently been conducted within a reserve approximately 1500m to the east of the town site, in which 7 active Malleefowl nests were identified. A DEC site inspection on 18&19 November 2007 found evidence of the presence of introduced predators (cat, fox and dog). The presence of these introduced animals would diminish its habitat value to Malleefowl.

The level of disturbance that the area has been subjected to and its proximity to housing and infrastructure has impacted on the significance of the fauna habitat available at this site.

**Methodology** Biodiversity Coordination Section (2006) (TRIM ref: DOC 8739)  
Merredin Malleefowl Survey (2006) (TRIM ref: DOC 9091)

**(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**

BCS (2006) identified a number of Priority flora species which occur within a 10km radius of Merredin. The site proposed for clearing was informally surveyed in 2005 by a CALM officer of the Merredin District Office. 67 plant species were identified, including *Verticordia mitodes*, a Priority 3 species, however no known Threatened and/or Declared Rare Flora (DRF) were identified within the application area (BCS, 2006).

Given that no DRF were observed during the survey of the applied area, it is considered unlikely that the area is necessary for the maintenance of any DRF species. The proposed clearing is therefore considered unlikely to be at variance to this Principle.

**Methodology** BCS (2006) (TRIM ref: DOC 8739)  
GIS Databases:  
- Pre-European Vegetation - DA 01/01  
- Declared Rare and Priority Flora List - CALM 13/08/03

**(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 recorded in the areas under application or within 10km of the proposed clearing (BCS 2006). The nearest TEC is located approximately 77.9km south east of the area to be cleared. Given the above, the clearing as proposed is considered unlikely to be at variance to this Principle.

**Methodology** BCS (2006) (TRIM ref: DOC 8739)  
GIS Databases:  
- Threatened Ecological Communities - CALM 15/7/03

**(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 vegetation under application comprises remnant and regenerated native vegetation, and a site inspection on 19&20 November 2007 (TRIM ref DOC41969) revealed that the vegetation aligns most closely with Beard Vegetation Association 141 (Medium woodland; York gum, Salmon gum and Gimlet). (Hopkins et al. 2001, Shepherd et al. 2001) of which 37% of Pre European extent remains. It is worth noting that the vegetation extent mapping that was undertaken by Shepherd et al. (2001), was evaluated using datasets and digital orthophotos that may not have distinguished between remnant vegetation and regrowth.

There is physical and anecdotal evidence to suggest that some areas within the vegetation under application have previously been cleared. The degree of impact and the success of the natural regeneration is highly variable, and this, when considered with the relatively small size of the area involved, impacts on the significance of the area as a remnant of native vegetation.

Given the above, the proposed clearing may be at variance to this Principle, however the degree of impact is mitigated by the proponent's willingness to retain mature Salmon Gum trees within the proposed clearing area, and to revegetate 3 hectares of degraded land immediately adjacent.

**Methodology** Hopkins et al. (2001)  
Shepherd et al. (2001)  
GIS Databases:  
- Pre-European Vegetation - DA 01/01  
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

**(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**

There are no known wetlands or watercourses within the area under application. The area immediately surrounding the vegetation under application includes a major drain approximately 290m south of the area, and three minor, non perennial watercourses located approximately 350m, 770m and 1600m east of the proposed clearing.

**Methodology** GIS Databases:  
- Hydrography, linear - DOE 1/2/04

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

**Comments Proposal may be at variance to this Principle**

DAFWA (2006) identifies the soils within the area under application as predominantly duplex soils, with shallow sandy loam over clay on the lower slopes. Some soils in the immediate area are compacted, with soils closer to the rock consisting of coarse sands over shallow rock, with granite rock outcrops.

Assessment of the proposed clearing identified a low to moderate risk of land degradation in the form of water erosion, water logging, and local groundwater rise occurring in the immediate vicinity of the clearing, and down slope of the cleared areas. These issues may result in surface salinity through the process of evaporation; however this issue will be addressed by a license condition requiring the retention of mature Salmon Gums within the area that is proposed to be cleared. The proponent has also agreed to revegetate 3 hectares of degraded ground adjacent to the area that has been applied to be cleared.

DAFWA (2006) recognises that these land degradation issues may be mitigated by the proposed revegetation of the unused portion of the golf course to the east of the cleared area, which could potentially offset the increase recharge which results from the proposed clearing.

**Methodology** DAFWA (2006) (TRIM ref: DOC7293)

**(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 nearest DEC managed reserve is Merredin Nature Reserve which is located approximately 6.8km south

west of the area under application.

Aerial photography suggests that local native vegetation is quite restricted in extent, being limited primarily to the area under application, and the adjacent Crown Reserves (2914 and 23520). Ground truthing revealed that the upper canopy vegetation within the subject area is sufficiently healthy to provide habitat continuity for local avian fauna populations moving through the landscape. The condition of the middle and ground layer vegetation stratum varies from good to degraded, which would limit its value for terrestrial fauna moving between remnants of vegetation.

Permit conditions requiring the retention of mature Salmon Gums, and the rehabilitation of adjacent degraded grounds are likely to address the potential loss of fauna habitat connectivity to nearby conservation areas.

**Methodology** GIS Databases:  
- System 6 Conservation Reserves - DEP 06/95  
- CALM Managed Lands and Waters - CALM 01/08/04  
- Merredin Westonia 1.4. Orthomosaic - DLI 99  
- Bruce Rock 1.4. Orthomosaic - DOLA 01

**(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 may be at variance to this Principle**

Lot 684 Bates Street does not contain any major or minor watercourses, with the nearest major water body being Belluguttin Creek which lies 5.5km to the north west. Due to this distance, it is considered unlikely that the clearing of the applied area would have an appreciable impact on the quality of this water body.

DAFWA (2006) have advised that groundwater salinity in the area ranges from 15,000mg/l to 40,000mg/l and that the removal of native vegetation poses a slight risk to rising ground water tables, which may lead to an increase in localised salinity issues.

Permit conditions requiring the retention of mature Salmon Gums, and the rehabilitation of adjacent degraded grounds are likely to address the potential impacts to the quality of surface or underground water that this proposal represents.

**Methodology** DAFWA (2006) (TRIM ref: DOC7056)  
GIS Databases:  
- ANCA Wetlands - CALM 08/01  
- Hydrography, linear - DOE 01/02/04  
- EPP, Lakes - DEP 1/12/92

**(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 may be at variance to this Principle**

The subject area is located in a low rainfall zone, having an average rainfall of 400mm per annum.

DAFWA (2006) identifies the soils within the area under application as predominantly duplex soils, with shallow sandy loam over clay on the lower slopes. Some soils in the immediate area are compacted, with soils closer to the rock consisting of coarse sands over shallow rock, with granite rock outcrops. Certain soils within the applied area are described as very compacted at the surface, providing a low threshold surface, allowing runoff during low rainfall events

As a result, DAFWA (2006) have identified that due to the characteristics of these soil profiles, and the relatively close proximity to Merredin Peak, the proposed clearing area is identified as having a low to moderate risk of flooding occurring at the site.

It is therefore considered that the proposed clearing has the potential to exacerbate the incidence or intensity of flooding within the local area, however these potential impacts will be managed by permit conditions requiring the retention of mature Salmon Gums, and the rehabilitation of 3 hectares of adjacent degraded ground.

**Methodology** DAFWA (2006) (TRIM ref: DOC7056)  
GIS Databases:  
- Rainfall, Mean Annual - BOM 30/09/01  
- Hydrography, linear - DOE 01/02/04

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

**Comments**

The Shire of Merredin has advised that they give in principle support to the proposed development (TRIM ref: DOC 8763).

Twelve public submissions were received objecting to the proposed clearing, raising issues such as the potential rise in the water table as a result of the clearing, the existing high water table problem in Merredin, dryland salinity issues, the potential Malleefowl habitat located within the applied application, the applied area representing fauna habitat of significance, and possible Echidna activity within the applied area (TRIM Ref: EI6511).

A petition, signed by 140 members of the general public was received, outlining their objection to the clearing proposal (TRIM ref: EI6291).

The proponents were given the opportunity to provide further information to address the issues identified in the assessment. The proponent made a submission regarding these issues (TRIM ref. DOC15775). In response, BCS (2007, TRIM ref. 18632) and DAFWA (2007, TRIM ref. 18627) advice was sought. It is considered that all issues raised in the submission have been adequately addressed in the comment sections of the relevant Principles.

There is no other RIWI Act Licence, Works Approval or EPA Act Licence that affects the area under application.

**Methodology** Shire of Merredin Council Comments (2006) (TRIM ref: DOC 8763)  
 Petition (TRIM ref: EI6291)  
 Public submissions (TRIM ref: EI6511)  
 Submission from proponent (TRIM ref: DOC15775)

#### 4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Recreation	Mechanical Removal	2.95	The proposal has been assessed and the clearing as proposed may be at variance to Principles (a), (b), (e), (i) and (j) and is not likely to be at variance to Principles (c), (d), (f), (g), and (h), Given the above, the assessing officer recommends a clearing permit be issued provided it is subject to the proponent retaining mature Salmon Gum Trees and rehabilitating an area of 3 hectares with local native flora species.
Recreation	Mechanical Removal	2.95	
Recreation	Mechanical Removal	2.95	

#### 5. References

- BCS (2006) Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia. DEC TRIM ref: DOC8739
- DAFWA (2006) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DEC TRIM ref: DOC 7056
- DAFWA(2006) (TRIM ref DOC7293)
- DEC Land for Wildlife Officer - Merredin - Informal Vegetation Survey (2006) (DEC TRIM ref: DOC 10765)
- DEC NVCB site inspection 18 & 19 November 2007 (TRIM ref DOC41969)
- 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.
- 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.
- 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.
- Merredin Malleefowl Survey (2006) (DEC TRIM ref: DOC9091)
- 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.
- Shire of Merredin Clearing Proposal - Public Submissions (DEC TRIM ref: EI6511)
- Shire of Merredin Clearing Proposal - Signed Petition (DEC TRIM ref: EI6291)
- Shire of Merredin Council Comments (2006) (TRIM ref: DOC8763)
- Submission from proponent (TRIM ref: DOC15775)

## 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)