

## 1. Application details

### 1.1. Permit application details

Permit application No.: 3339/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Shire of West Arthur

### 1.3. Property details

Property: LOT 299 ON PLAN 186886 ( DARKAN 6392)  
DARKAN TOWNSITE LOT 295 (House No. 2 MOODIARRUP DARKAN 6392)

Local Government Area:

Colloquial name:

### 1.4. Application

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

## 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: 6772: Eucalyptus Woodlands 'Williams' over Daviesia mixed open shrublands/Acacia mixed open heath	The proposal is to clear 0.35 ha or 86 native trees for the purpose of community sporting facilities, grounds and access roads.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	A site inspection was not undertaken by the regional office. The condition of the native vegetation under application was determined through aerial photography (Darkan 50cm Orthomosaic-Landgate 2006)

Mattiske vegetation association:

DK3: Open woodland of Allocasuarina huegeliana-Acacia acuminata with occasional Eucalyptus rudis and Eucalyptus wandoo on variable slopes near granite outcrops and woodland of Eucalyptus astringens-Eucalyptus wandoo on breakaways in the arid zone.

## 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**  
Three species of priority flora and two species of priority fauna are known from the local area (10 km radius). The area under application (0.35 ha) consists of predominantly parkland cleared mature trees and therefore is not thought to comprise an area of high biodiversity.

**Methodology** Keighery (1994)  
DEC (2009)  
ANCA (1996)  
EPA (2000)

GIS database:

- Darkan 50cm Orthomosaic - Landgate 2006
- CALM Managed Lands and Waters - CALM 01/06/05
- SAC Biodatasets - accessed 19-10-09
- Mattiske Vegetation (01/03/1998)
- Declared Rare and Priority Flora List - DEC 2009
- Hedde Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01

- Clearing Regulations, Environmentally Sensitive Areas 2009
- 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 may be at variance to this Principle**

Two fauna species listed as threatened species occur within the local area (10 km radius): the Western Rosella (inland ssp) *Platycercus icterotis xanthogenys* and the Brush-tailed Phascogale *Phascogale tapoatafa*. Both taxa area also Federally listed species under the EPBC Act 1999 and are listed as 'vulnerable'. Two priority four fauna species are also recorded within the local area: the Western Brush Wallaby *Macropus irma* and the Carpet Python *Morelia spilota imbricata*.

Although the vegetation within the applied area is degraded in condition, the mature trees may still be suitable habitat for bird species and potentially the Brush-tailed Phascogale for nesting (hollows) and feeding. Therefore it is considered that the vegetation under application may be at variance to this Principle. A fauna management condition has been placed on the permit to mitigate this impact.

**Methodology**    DEC 2009  
 EPBC Act (1999)  
 Keighery (1994)

GIS database:  
 - Darkan 50cm Orthomosaic - Landgate 2006  
 - DEC Managed Lands and Waters -  
 - Matiske Vegetation (01/03/1998)  
 - SAC Biodatasets - accessed 19-10-09  
 - Hydrography linear - DOW 13/7/06  
 - Hydrography linear (hierarchy) - DoW 13/7/06

**(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**

One species of rare flora has been recorded within the local area (10 km radius). As this species is known from seasonally wet soils in moss swards & herbfields among granite rocks it is highly unlikely to occur in the applied area.

Additionally, given the degraded condition of the vegetation, it is unlikely that rare flora will occur within the area under application.

**Methodology**    DEC (2009 Nature map)  
 DEC (2009)  
 WA Herbarium  
 Matiske Consulting (1998)

GIS database:  
 - Darkan 50cm Orthomosaic - Landgate 2006  
 - Declared Rare and Priority Flora List - DEC 2009  
 - Matiske Vegetation (01/03/1998)  
 - Heddle Vegetation Complexes - DEP 22/06/95  
 - Pre European Vegetation - DA 01/01  
 - SAC Biodatasets - accessed Oct 09  
 - 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**

No TECs or PECs have been recorded within the local area (10 km radius). Given that the applied area consists of 86 trees only, it is highly unlikely that the applied area is part of, or necessary for the maintenance of, a significant ecological community.

**Methodology**    TEC Database (Accessed Oct 2009)

GIS Database:  
 - Darkan 50cm Orthomosaic - Landgate 2006  
 - SAC Biodatasets - accessed Oct 09  
 - Matiske Vegetation (01/03/1998)



- Heddle Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- Soils, Statewide DA 11/99

**(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**

The Environmental Protection Authority (EPA) supports the retention of remnant native vegetation to a 30% threshold level as recommended in the National Objectives Targets for Biodiversity Conservation below which, species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000).

The vegetation types under application retains less than this 30% threshold:

	Pre-European (ha)	Current extent (ha)	Remaining (%)	% In reserves DEC Managed Land
IBRA Bioregions*				
Jarrah Forest^	4,506,665	2,440,940	54.2	69.3
Shire*				
West Arthur	283,205	79,145	27.9	37.3
Mattiske Vegetation Complex**				
DK3	72,896	8,552	11.7	N/A
Beard Vegetation Association*				
4	1,054,279	254,656	24.1	25.4
Beard Vegetation Association with Bioregion*				
4	1,022,712	247,941	24.2	25.8

\* (Shepherd et al. 2007)

\*\* (Mattiske Consulting 1998)

^ Area within Intensive Land Use Zone

However, the vegetation under application is in a degraded condition and therefore is unlikely to represent these vegetation complexes. Therefore, the proposed clearing is not at variance to this Principle.

**Methodology** ANZECC (2000)  
DEC (2009)  
EPA (2000)  
Hopkins et al. (2001)  
Mattiske Consulting (1998)  
Shepherd (2007)  
Shepherd et al (2001)  
GIS Databases:  
- Darkan 50cm Orthomosaic - Landgate 2006  
- Heddle Vegetation Complexes - DEP 1995  
- Interim Biogeographic Regionalisation of Australia - EA 2000  
- Local Government Authorities - DLI 2004  
- Mattiske Vegetation - CALM 1998  
- Pre European Vegetation - DA 2001  
- SAC Biodatasets - accessed Oct 09  
- NLWRA, Current Extent of Native Vegetation 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 is not likely to be at variance to this Principle**

No ANCA or EPP Lakes occur within the local area (10 km radius) and only two small wetlands are mapped (Namine Swamp and an un-named swamp). Neither is in close enough proximity to be significantly affected by the proposed clearing.

Two major, non perennial water course traverse the local area but are over 5 km from the proposed clearing and are therefore unlikely to be significantly affected by the proposed clearing.

No riparian vegetation is proposed clearing and given the above, the proposed clearing is not likely to be at variance.

- Methodology**
- DEC (2009)
  - DoE (2005)
  - EPP (1992)
  - WRC (2001)
  - GIS Databases:
    - Darkan 50cm Orthomosaic - Landgate 2006
    - ANCA wetlands - Environment Australia 1999
    - DEC Managed Lands and Waters - DEC 2009
    - EPP Lakes Policy Area - DEP 1997
    - EPP Wetlands - EPA 2004
    - Clearing Regulations ESAs 2005
    - Geomorphic Wetlands (Mgt Categories), SCP DEC 2007
    - Hydrography linear - DOW 2006
    - Hydrography linear (hierarchy) - DoW 2006
    - Ramsar wetlands - DEC 2003

**(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 soils are mapped as "valley plains in which some salinity is usually present: chief soils are hard neutral, and also alkaline, yellow mottled soils. Associated are small areas of many other soils including minor areas of sands."

The area proposed to be cleared is not within a mapped risk area for Acid Sulphate Soils or within a mapped Salinity Risk Area. The risk of salinity, eutrophication, wind erosion and water erosion causing land degradation are considered to be low. Therefore the area under application is considered to be not likely to be at variance to this principle.

- Methodology**
- Northcote et al. (1968)
  - GIS Databases:
    - Darkan 50cm Orthomosaic - Landgate 2006
    - ASS Risk Map - DEC 2006
    - Av Annual Rainfall Isohyets - WRC 1998
    - Annual Isopleths - WRC 1998
    - Hydrogeology, statewide DOW 2006
    - Hydrographic catchments, catchments & subcatchments - DoW 2007
    - Hydrography, linear - DOW 2006
    - Salinity Risk LM 25m - DOLA 2000
    - Soils, Statewide DA 1999
    - Topographic contours statewide - DOLA and ARMY 2002
    - Hydrogeology, Statewide 2002

**(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**
- There are two nature reserves within the local area (10 km radius) but both area over 6 km from the proposed clearing. The proposed clearing will not significantly effect the conservation values of either area and does not form part of a significant ecological linkage.

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

- Methodology**
- GIS Databases:
    - Darkan 50cm Orthomosaic - Landgate 2006
    - DEC Managed Lands and Waters - DEC 2005
    - Hydrography, linear - DOW 2006
    - Register of National Estate - Environment Australia, 2002

**(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 Upper Blackwood Catchment (Hardy Estuary Blackwood River) Hydrographic Catchment area. Given the small application area, the proposed removal of native vegetation is



unlikely to significantly degrade water quality within the area. Therefore, the proposal is not likely to be at variance to this principle.

**Methodology** Keighery (1994)  
DEC (2009)  
DEC (2006)  
DOW (2008)  
GIS databases:  
- Darkan 50cm Orthomosaic - Landgate 2006  
- Evapotranspiration Isopleths - WRC 1998  
- Groundwater Salinity Statewide DoW 2006  
- Hydrographic catchments, catchments & subcatchments- DoW 2007  
- Hydrography, linear - DOW 2006  
- Mean Annual Rainfall Isohytes - DEC 2005  
- Salinity Risk LM 25m - DOLA 00  
- Topographic Contours Statewide - DOLA 2002

**(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 clearing of 0.35 ha (approximately 86 trees) in an area that is not low-lying and has relatively free draining soils, would have a negligible effect on flooding episodes.

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

**Methodology** Keighery (1994)  
DEC (2009)  
GIS databases:  
- Darkan 50cm Orthomosaic - Landgate 2006  
- Environmental Impact Assessments - EPA 2007  
- Evaporation Isopleths - WRC 1998  
- Hydrographic catchments, catchments & subcatchments- DoW 2007  
- Hydrography, linear - DoW 2006  
- Mean Annual Rainfall Isohytes - DEC 2005  
- Topographic Contours, Statewide - DOLA 2002

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

**Comments**  
No submissions from the public have been received.

No EP Act licences or approvals are required.

The Town Planning Scheme Zone is Parks & Recreation, which is compatible with the proposed purpose of the clearing (Sporting facilities).

The applied area is within the EPA Position Paper No.2 Agriculture Region in which "... the removal of biodiversity has already been too much and agricultural practises have not been able to mimic the ecological function performed by the former native plant communities" (EPA 2000). "Now all existing remnant vegetation is important, and it should be managed to ensure its retention" (EPA 1988). Although the purpose of the clearing is not for agriculture, it is still within a highly cleared landscape.

**Methodology** EPA (2000)  
EPA (1988)  
GIS database:  
- Cadastre - Landgate Dec 07  
- Native Title Claims - LA 2/5/07  
- RIWI Act, Groundwater Areas - DoW 13/07/06  
- RIWI Act, Irrigation Districts - DoW 13/07/06  
- Town Planning Scheme Zones - MFP 31/08/98  
- Country Area Water Supply Act (Part IIA) Clearing Control Catchments 29/06/2006  
- Aboriginal Sites of Significance 26 April 2007  
- Public Drinking Water Source Areas (PDWSAs) ? 07/02/06

**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 may be at variance to Principle (b) and is not likely to be at variance to the remaining clearing Principles.

## 5. References

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- ANCA (1996) A Directory of Important Wetlands in Australia. Second Edition. Australian Nature Conservation Agency, Canberra
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- 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



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Sac Bio Datasets (10-10-09). Department of Environment and Conservation, Sac Bio Datasets, Kensington, Western Australia.

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## 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)