



## 1. Application details

### 1.1. Permit application details

Permit application No.: 1849/1  
 Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Michael Andrew Lawler

### 1.3. Property details

Property: LOT 1 ON DIAGRAM 72384 ( COOKERNUP 6220)  
 Local Government Area: Shire Of Harvey  
 Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
11.12		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 1000: Mosaic: Medium forest; jarrah-marri / Low woodland; banksia / Low forest; tea tree (Melaleuca spp.) (Shepherd et al. 2001).	The clearing proposal involves clearing approximately 11.1 hectares of native vegetation for the purpose of constructing a house and associated yards, and the harvest of Xanthorrhoea preissii (grass tree).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The description of the clearing application area is based on a site visit conducted by DEC officers on 29 June 2007.
Bassendean Complex - Central and South (Hedde): Jarrah-sheoak-banksia on sand dunes, to low woodland of Melaleuca spp., and sedgelands on the low-lying depressions and swamps (Hedde et al. 1980).	The vegetation under application is a mosaic of Eucalyptus marginata, Agonis flexuosa, Banksia attenuata, Nuytsia floribunda, Melaleuca preissiana, over Taxandria linearifolia, Acacia pulchella, Xamia, Leucopogon spp., and Xanthorrhoea preissii (DEC Site Visit, 2007).		
	The area under application has been previously disturbed; however is recovering well. The vegetation under application varies in condition from good to very good (Keighery, 1994); some areas intersect the buffer of several conservation category wetlands (CCWs) in excellent health.		

## 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 at variance to this Principle**  
 The proposed clearing is for 11.1 ha of remnant vegetation in the Swan Coastal Plain IBRA region. This region

is adequately represented with approximately 43.0% of pre-European vegetation remaining (Shepherd et al. 2001).

The vegetation under application varies in condition from good to very good (Keighery, 1994; DEC Site Visit, 2007). The area comprises several vegetation types including jarrah woodland, Melaleuca over heath and banksia/sheoak woodland, which are poorly represented in conservation estate. A series of six vegetated wetlands in two systems extends in a north-south orientation along the length of the property. These wetlands are classed as Conservation Category Wetlands (CCWs).

The local area is approximately 35% vegetated and has been predominantly cleared for agriculture. Approximately 50% of that vegetation is managed by DEC for conservation purposes (including Nature Reserves and State Forest). Several small locations surrounding the application area have been acquired by DEC for their significant ecological attributes, including conservation category wetlands (CCWs), EPP lakes and threatened flora.

The property bounding the area to the south is a recently acquired 'A Class' Nature Reserve; the property under application is in identical condition and it is considered to add to the ecological values of this Nature reserve (Pers. comm., SW Region, 2007).

Based on the above information, the vegetation under application is considered to represent a high level of biological diversity in the Bioregion.

**Methodology** DEC Site Visit (2007);  
Shepherd et al. (2001);  
Keighery (1994);  
Pers. comm., SW Region (2007);  
GIS Databases:  
- CALM Managed Lands and Waters - CALM 1/6/04;  
- Swan Coastal Plain South 40cm ORTHOMOSAIC - DLI05

**(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 area proposed for clearing comprises a majority of banksia/sheoak woodland, with degraded areas from previous disturbance (DEC Site Visit, 2007), which may hold habitat value for native fauna in the local area.

The local area (10 km radius) is approximately 35% vegetated; including the Myalup State forest and other areas of wetland-associated vegetation, which is likely to offer equal or better habitat than that within the application area.

The area under application comprises many grass trees *Xanthorrhoea preissii*; smaller grass trees are known to support habitat for smaller reptiles, pygmy possums, snakes, etc., while larger species (large, multiple skirts) can often support larger fauna, such as possums (de Tores, 2007). Especially in event of fire, smaller fauna may seek refuge within the internal cavities, providing some protection (de Tores, 2007). *Xanthorrhoea preissii* are also known to support avian fauna, such as cockatoos and honeyeaters as a reliable food source when in flower (de Tores, 2007).

Although the proposed clearing is likely to reduce the available habitat for local fauna, the scale is not considered to be significant in the local setting (Pers. comm., SW Region, 2007).

Therefore, the proposal is not likely to be at variance to this Principle.

**Methodology** DEC Site Visit (2007);  
de Tores (2007);  
Pers. comm., SW Region (2007)

**(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**

Opportunistic sightings have identified the declared rare *Drakaea elastica* within the roadside verge along the northern boundary of the property under application; *Drakaea micrantha* (DRF) 1 km east of this location, and *Diuris purdiei* (DRF) 1 km west, below the Riverdale Nature Reserve (DEFL, 2007). All these species are known to occur in low-lying areas adjoining winter-wet swamps (Florabase, 2007); therefore there is a high likelihood of all three species occurring within the area under application, given the habitat similarities.

A new population of Priority 2 flora (*Boronia capitata* subsp. *gracilis*) has also been recorded within wetland on the northern boundary of the Nature reserve bounding the property under application to the south (DEFL, 2007).

Given the Excellent condition of the vegetation under application associated with the conservation category wetlands on the property (DEC Site Visit, 2007), it is highly likely that threatened and priority flora occur within the application area; there is also a high risk the proposal will impact on non-target species.

The biological values of the property under application are considered to be identical to the property directly abutting the southern boundary (Pers. comm., SW Region, 2007); DEC recently acquired this property for conservation of its outstanding biodiversity values.

Given the above, a flora survey is required to address whether threatened and priority flora occur within the area under application.

**Methodology** Pers. comm., SW Region (2007);  
 Florabase (DEC, 2007);  
 DEC Site Visit (2007);  
 GIS Databases:  
 - Threatened Flora Database (DEFL) - DEC 17/04/07

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

There are several Threatened Ecological Communities (TECs) mapped within the local area (10km radius). The closest is an occurrence of the community type SCP20a, located approximately 6.1km south of the applied area. This community type comprises Banksia attenuata woodland over species rich dense shrublands; these characteristics are found within the applied area (TEC Database).

The majority of TEC occurrences on the Swan Coastal Plain have been associated with sumplands and moisture gaining sites; given the excellent condition of the vegetation under application and habitat similarities between other known occurrences and the applied area, there is a high likelihood that the previously unrecorded occurrences of TEC's may be found on the location. NB: Important to note that private land locations were not routinely searched during the Flora of the Swan Coastal Project - which identified most of the current TEC's occurrences (SW Region, 2007).

Therefore, the proposal may be at variance to this Principle.

**Methodology** SW Region (2007);  
 GIS Databases:  
 - Threatened Ecological Communities - CALM 12/04/05;  
 - Threatened Plant Communities - DEP 06/95;  
 - Environmentally Sensitive Areas - DoE 30/05/05

**(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 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 National Resources and Environment 2002; EPA 2000).

Vegetation within the applied area is identified as a component of both Beard Vegetation Association 1000 and the Bassendean Central And South complex. Both these vegetation communities are of a vulnerable status for biodiversity conservation (Department of Natural Resources and Environment, 2002), with 25.7% and 27.0% respectively, remaining of their pre-European extent (Shepherd 2006; EPA 2006).

Pre-European	Current extent	Remaining		Conservation	% In **status
	reserves/CALM (ha)*	(ha)*	(%)*		managed land
IBRA Bioregion - Swan Coastal Plain	1,511,811	657,450	43.0	Depleted	
Shire of Harvey	168,249	101,085	60.1	Least Concern	
Vegetation type: Beard: Unit 1000	99,683	25,569	25.7	Vulnerable	7.5
Hedde: Bassendean Complex - Central and South	87,477	23,624	27.0	Vulnerable	0.7

- \* (Shepherd et al. 2001)
- \*\* (Department of Natural Resources and Environment 2002)
- \*\*\* Within the Intensive Landuse Zone

It is also noted that there is only 7.5% of Beard's Vegetation Association 1000 and even less (0.7%) of the Bassendean Central And South complex in secure tenure.

Based on the above information the proposal is at variance to this Principle.

**Methodology** Department of Natural Resources and Environment (2002);  
 EPA (2000);  
 EPA (2006);  
 Shepherd et al. (2001);  
 Shepherd et al. (2006);  
 Heddle et al. (1980);

GIS Databases:  
 - Pre-European Vegetation - DA 01/01;  
 - Heddle Vegetation Complexes - DEP 21/06/95;  
 - 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 at variance to this Principle**  
 Approximately 50% of the applied area is a Conservation Category Wetland (CCW) (DEC Site Visit, 2007). CCWs are wetlands with high ecological values and are the highest priority wetlands for protection. CCWs are recognised under objective one of the Wetlands Conservation Policy for Western Australia as valuable (Government of Western Australia, 1997). Therefore, government agencies and the EPA consider that there should be no further loss and degradation of these wetlands. Their protection also requires the retention of an adequate buffer.

Therefore, the area under application is at variance to this Principle.

**Methodology** DEC Site Visit (2007);  
 Government of Western Australia (1997);  
 GIS Databases:  
 - Hydrography, Linear - DOE 01/02/04;  
 - Geomorphic wetlands - Swan Coastal Plain - DoE 15/09/04;  
 - EPP Areas - DEP 06/95;  
 - EPP Lakes - DEP 28/07/03;  
 - Swan Coastal Plain South 40cm ORTHOMOSAIC - DLI 05

**(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 proposal is unlikely to increase or exacerbate wind or water erosion, water logging or salinisation, as it involves removing mid- and under-storey species that do not utilise large amounts of water or contain large root systems.

Therefore, the proposal is unlikely to be at variance to this Principle.

**Methodology** GIS Databases:  
 - Salinity Mapping LM 25m - DOLA 00;  
 - Salinity Risk LM 25m - DOLA 01

**(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**  
 There are a number of areas of conservation significance within close proximity to the area under application.

The degradation of locally significant vegetation is considered likely to reduce the environmental values of the property under application, which contributes to the ecological values of the 'A Class' Nature Reserve to the south. DEC would consider it beneficial to see minimal disturbance to environmental values on the property under application (Pers. comm., SW Region (2007)).

Based on the above information, the proposal is at variance to this Principle.

**Methodology** Pers. comm., SW Region (2007);  
GIS Databases:  
- CALM Managed Lands and Waters - CALM 01/08/04;  
- Cadastre - DLI 1-09/04

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

The removal of the vegetation under application is unlikely to alter local hydrology or hydrological systems, given its small size.

Groundwater salinity is low and the area is mapped as having a moderate to low risk of ASS; however there are areas of high salinity risk within the area under application.

Therefore, the proposal is may be at variance to this Principle.

**Methodology** GIS Databases:  
- Hydrographic Catchments, Catchments - DoE 3/4/03;  
- Acid Sulphate Soil Risk Map, SCP DoE 01/02/04;  
- Salinity Risk LM 25m - DOLA 00

**(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 unlikely to occur as a result of the proposed clearing due to its small size. The removal of the vegetation under application is unlikely to cause or exacerbate the incidence or intensity of flooding.

Therefore, the proposal is unlikely to be at variance to this Principle.

**Methodology** GIS Database:  
- Topographic Contours, Statewide - DOLA 12/0902

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

**Comments**

The property is zoned General Farming under the Shire of Harvey TPS No. 1. The Shire has not provided any comment for the proposal.

The proponent requires a Producer's Nurseryman's licence to sell any harvested Xanthorrhoea preissii.

No public submissions have been received for this proposal.

**Methodology** GIS Database:  
- Town Planning Scheme Zones - MFP 8/98

**4. Assessor's comments**

Purpose	Method	Applied area (ha)/ trees	Comment
Miscellaneous	Mechanical Removal	11.12	Assessable criteria have been addressed and the assessment of the vegetation under application revealed the proposal is at variance to Principles (a), (e), (f) and (h); may be at variance to Principles (c), (d) and (i); not likely to be at variance to Principles (b), (g) and (j).

**5. References**

- de Tores, P (2007). Unpublished work from Western Ringtail Possum translocation research, Department of Environment and Conservation, Dwellingup Research Centre, Western Australia.
- DEC Site Visit (2007). Department of Environment and Conservation, Western Australia. TRIM Ref: DOC27893.
- Department of Environment and Conservation (2007). Florabase Website. Site accessed on 17 July 2007.
- 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.

- Government of Western Australia (1997) Wetlands Conservation Policy for Western Australia, Department of Conservation and Land Management and the Water and Rivers Commission, Perth 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.
- 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.
- Shepherd, D.P. (2006). 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.

## 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)