



1. Application details

1.1. Permit application details

Permit application No.: 1591/1
 Permit type: Area Permit

1.2. Proponent details

Proponent's name: Jewel & Keith Clayton

1.3. Property details

Property: LOT 44 ON PLAN 14526
 Local Government Area: Shire Of Toodyay
 Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.42	3	Mechanical Removal	Horticulture

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
<p>Beard Vegetation Association 3003: Medium forest; jarrah and marri on laterite with wandoo in valleys, sandy swamps with tea-tree and banksia. (Shepherd et al 2001, Hopkins et al 2001)</p> <p>Hedde Vegetation Complex: Murray and Bindoon Complex in Low Medium Rainfall: No description available (Hedde et al. 1980)</p> <p>Mattiske Vegetation Complex: Murray 2- Open forest of Eucalyptus marginata subsp. thalassica-Corymbia calophylla-Eucalyptus patens and woodland of Eucalyptus wandoo with some Eucalyptus accedens on valley slopes to woodland of Eucalyptus rudis-Melaleuca raphiophylla on the valley floors in semiarid and arid zones. (Mattiske Consulting 1998)</p>	<p>The area under application (0.42ha) is located within an 11.3ha property, Lot 44 (zoned Special Rural), which is approximately 22.5km south-west of Toodyay town site. The northern boundary of the property is adjacent to a road reserve (McKnoe Drive), and the other boundaries are adjacent to freehold properties, also zoned Special Rural.</p> <p>The area under application consists of trees (marri and wandoo) and a sparse understorey of native vegetation, weeds and vehicle tracks (Site Inspection 2006).</p> <p>The area will be parkland cleared, with the understorey, including Acacia pulchella, Dryandra nivea, Ptilotus manglesii and Dampiera sp., to be cleared. The trees, wandoo (Eucalyptus wandoo) and marri (Corymbia calophylla), and one balga (Xanthorrhoea preissii) are to be retained (Site Inspection 2006). There is also a 1m high marri (regrowth) which will be cleared (Site Inspection 2006).</p> <p>After further consideration by the proponent, two trees may require to be cleared (Information provided by</p>	<p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)</p>	<p>The vegetation to be cleared is considered to be in a degraded condition, due to the occurrence of vehicle tracks within the area under application, and a sparse understorey of native vegetation and weeds (Site Inspection 2006).</p>

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**
A site inspection (2006) of the applied area identified the vegetation under application to be in a predominantly degraded condition, comprising of trees (marri and wandoo) and a sparse understorey of native vegetation, weeds and vehicle tracks. The area under application is to be parkland cleared with the trees (except for three trees) and one balga (*Xanthorrhoea preissii*) to be retained.
- Given the level of disturbance and the sparse understorey, it is unlikely that the area under application comprises a high level of biodiversity.
- Methodology** Site Inspection (2006) (TRIM Ref ED1357)
GIS Databases:
- CALM Managed Lands and Water - CALM 01/07/05
- Northam 1m Orthomosaic - DLI 12/03

(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 applied to be cleared is predominantly a degraded area which consists of trees (marri and wandoo) and a sparse understorey of native vegetation, weeds and vehicle tracks (Site Inspection 2006). The trees (except for three trees) and one balga (*Xanthorrhoea preissii*) are to be retained.
- Given the small area under application (0.42ha), the degraded condition of the vegetation and the sparseness of the understorey, it is unlikely that the vegetation within the area under application comprises significant habitat for fauna indigenous to Western Australia.
- Methodology** Site Inspection (2006) (TRIM Ref ED1357)
GIS Databases:
- Cadastre - DLI 1/12/05

(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 are no known occurrences of Declared Rare Flora (DRF) in the local area (10km radius). The nearest recorded DRF is located approximately 13 km south-west of the proposed area.
- The following Priority species are known to occur in the local area (10km radius):
- *Verticordia citrella* (Priority 2),
 - *Tetratheca pilifera* (Priority 3),
 - *Calytrix sylvana* (Priority 4),
 - *Grevillea candolleana* (Priority 2), and
 - *Templetonia drummondii* (Priority 4).
- As there are no known occurrences of DRF in the local area, and given the distance to the nearest recorded species, it is unlikely that the vegetation proposed to be cleared includes or is necessary for the continued existence of rare flora.
- Methodology** GIS DataBase,
- Declared Rare and Priority Flora List - CALM 01/04/05

(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 (TECs) within 10km of the area under application with the nearest recorded TEC located approximately 20.5km west north-west. It is therefore unlikely that the vegetation proposed to be cleared comprises the whole or part of or is necessary for the maintenance of a TEC.
- Methodology** GIS Database:
- Threatened Ecological Communities, CALM 12/04/05

(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 not at variance to this Principle

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents the clearance of ecological communities with an extent below 30% of that present Pre-European settlement (Department of Natural Resources and Environment 2002). The Vegetation Complexes in the area under application are above the recommended minimum of 30% representation.

	Pre-European (ha)*	Current extent (ha)*	Remaining (%)*	Conservation**% In reserves/CALM status	managed land
IBRA Bioregion - Jarrah Forest	4,544,335	2,665,480	58.7	Least Concern	
Shire of Toodyay	173,440	88,082	50.8	Least Concern	
Vegetation type: Beard: Unit 3003	78,358	51,943	66.3	Least Concern	5.9%
Hedde: Murray and Bindoon Complex in Low/Med rainfall				No information available	
Mattiske: Murray 2	593,148	440,381	74.2	Least Concern	

* (Shepherd et al. 2001)

** (Department of Natural Resources and Environment 2002)

Given the proposed clearing of 0.42ha is relatively small compared to the area of remnant vegetation remaining within the Region and there is 66.3% (Beard Unit 3003) (Shepherd et al. 2001) and 74.2% (Mattiske: Murray 2) (Mattiske Consulting 1998) of native vegetation remaining, the vegetation proposed to be cleared is not likely to be significant as a remnant of native vegetation in the surrounding area.

Methodology Department of Natural Resources and Environment (2002)
 Shepherd et al. (2001)
 Hedde et al. (1980)
 Mattiske Consulting (1998)
 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 at variance to this Principle

A tributary of Red Swamp Brook (a minor non-perennial watercourse) flows from north to south in the western section of the property, approximately 100m west of the area under application. Further, there are no wetland dependent species occurring within the area under application (Site Inspection 2006).

Given there are no wetlands or watercourses within the area under application and the vegetation under application is not considered to be wetland dependent, the clearing as proposed is not at variance to this Principle.

Methodology Site Inspection (2006) (TRIM Ref ED1357)
 GIS Databases:
 - Rivers 250K - GA

(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 landform of the area under application and its surrounds can be described as low hilly to hilly terrain that comprises of valleys that are frequently narrow and have short fairly steep pediments, along with breakaways, mesas, and occasional granite tors. The chief soils are hard acidic yellow mottled soils along with sandy acidic yellow mottled soils, all of which contain moderate to large amounts of ironstone gravels in their surface horizons.

The vegetation under application is considered to be in a degraded condition, with soils observed to consist primarily of gravel (Site Inspection 2006).

Given the small area (0.42ha) to be cleared and the gravel in the surface horizons, the clearing as proposed is not likely to cause appreciable land degradation.

Methodology Site Inspection (2006) (TRIM Ref ED1357)

GIS Databases:

- Soils, Statewide - DA 11/99

- Northam 1m Orthomosaic - DLI 12/03

(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 at variance to this Principle

There are two conservation reserves within 10km of the area under application, namely Morangup Nature Reserve approximately 4.5km east of the area under application and Avon Valley National Park 7.6km north-west of the area under application.

Given that the small area under application (0.42ha) is sufficiently distanced from the nearby nature reserves, and contains vegetation in a predominantly degraded condition, it is unlikely that the clearing as proposed will have an impact on the environmental values of, or provide significant linkages to, the nearby conservation reserves.

Methodology GIS Databases:

- CALM Managed Lands and Waters, CALM 1/07/05

(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 at variance to this Principle

With an average annual rainfall of 800mm to 900mm and an annual evaporation rate of 2,000mm there is likely to be little surface flow during normal seasonal rains. It is only during major rainfall events that there would be significant surface flow and this flow during these events tends to be relatively fresh. The Swan Avon-Main Avon Catchment within the Swan Coastal Basin becomes a medium for the collection and transportation of the major flows.

With high annual evaporation rates and low annual rainfall there is little recharge into regional groundwater table. The salinity at this site is between 1,000 mg/l and 3,000 mg/l, which is considered to be marginal to brackish. The proposed clearing of 0.42ha native vegetation is unlikely to have an impact on regional groundwater considering the small size of the proposal and the magnitude of the Yilgarn-Southwest Groundwater Province (~246,000 sq km).

Methodology GIS Databases:

- Evaporation Isopleths - BOM 09/98

- Isohyets - BOM 09/98

- Groundwater Salinity, Statewide - 22/02/00

- Hydrography, linear - DOE 01/02/04

- Groundwater Provinces - WRC 98

- Hydrographic Catchments, Catchments - DOE 23/03/05

(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 at variance to this Principle

Given that the vegetation under application comprises of a small area (0.42ha) of predominantly understorey vegetation in a degraded condition, it is not considered likely that the proposed clearing would have an impact on peak flood height or duration. Therefore proposed clearing is not considered likely to be at variance to this principle.

Methodology GIS Databases:
 - Cadastre - DLI 1/12/05
 - Hydrography, linear - DOE 01/02/04

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

Comments

The area under application is within the Proclaimed Surface Water Area of Swan River and Tributaries Catchment. Therefore any abstraction of surface water above the riparian rights (>1,500kL) would require a licence. The proponent is abstracting groundwater from a bore located on their property. Therefore, this application is not associated with surface water extraction and does not require a groundwater licence.

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

Development Approval from the Shire of Toodyay was received by the Department on 11/12/2006.

Methodology GIS databases:
 - RIWI Act, Groundwater Areas - WRC 13/06/00
 - RIWI Act, Surface Water Areas - WRC 18/10/02

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Horticulture	Mechanical Removal	0.42 3	An assessment of the applied area against the ten clearing principles has been completed and it has been determined that the clearing is not likely to be at variance to any of the clearing principles. The assessing officer therefore recommends that a permit should be granted.

5. References

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.

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.

Mattiske Consulting (1998) Mapping of vegetation complexes in the South West forest region of Western Australia, CALM.

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 Inspection (2006) Site Inspection Report, Department of Environment and Conservation (DEC), Western Australia. TRIM Ref ED1357

Site Inspection Photos (2006) Site Inspection Photos, Department of Environment and Conservation (DEC), Western Australia. TRIM Ref DOC10970

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)

