



1. Application details

1.1. Permit application details

Permit application No.: 2289/1
 Permit type: Area Permit

1.2. Proponent details

Proponent's name: Geoffrey Cameron & Gloria Josephine Thomsett & Young

1.3. Property details

Property: LOT 101 ON PLAN 21142 (BEELA 6224)
 LOT 101 ON PLAN 21142 (BEELA 6224)
 Local Government Area: Shire Of Harvey
 Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
	8	Mechanical Removal	Dam 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
Beard - Unit 1184: Medium woodland-fringing; jarrah, marri, Eucalyptus rudis & Agonis flexuosa (Hopkins et al., 2001; Shepherd, 2006). Mattiske: - Lowdon (Lo) Complex: Open forest of Corymbia calophylla-Eucalyptus marginata subsp. marginata-Agonis flexuosa with some Eucalyptus wandoo and occasional Corymbia haematoxylon on slopes, and woodland of Eucalyptus rudis-Melaleuca raphiophylla on valley floor in the humid zone (Havel & Mattiske Consulting, 1998). Heddle: - Lowdon Complex: mixture of an open forest of jarrah-marri, a low open forest of peppermint on the lower valley slopes, a woodland of E. rudis-M. raphiophylla along watercourses, and a wandoo woodland on the slopes (Heddle et al., 1980).	The proposal involves clearing 8 native trees for the purpose of dam construction. The area appears to be grazed by stock.	Completely Degraded: No longer intact; completely/almost completely without native species (Kelghery 1994)	The description of the area under application is based on orthomosaic mapping.

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 at variance to this Principle**

The proposal is for the clearing of 8 native trees for the purpose of dam construction. The vegetation under application appears to be completely degraded (Keighery, 1994).

Given the application consists of 8 trees within a grazed area the area under application does not hold a high level of biological diversity and is therefore not at variance to this Principle.

Methodology Keighery (1994);

GIS Databases:
- Bunbury 50cm ORTHOMOSAIC - DLI04

(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 at variance to this Principle**

The proposal is for the clearing of 8 native trees for the purpose of dam construction. The vegetation under application appears to be completely degraded (Keighery, 1994).

There are several records of threatened and priority listed fauna within close proximity to the area under application (10 km radius). The local area is approximately 40% vegetated, with approximately half of that vegetation being DEC managed State Forest and National Park.

Given the application comprises 8 trees within a grazed area and the surrounding local vegetation, the area under application is not considered significant habitat for fauna indigenous to Western Australia and is therefore not at variance to this Principle.

Methodology Keighery (1994);

GIS Databases:
- Threatened Fauna, SAC Bio Dataset - 22/8/07
- CALM Managed Lands and Waters - CALM 1/6/04;
- Bunbury 50cm ORTHOMOSAIC - DLI04

(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 population of *Drakaea elastica* (DRF) and one population of *Anthotium junciforme* (P4) have been recorded within 10 km of the area under application.

Drakaea elastica is a tuberous, perennial herb that flowers in October to November and occurs on white or grey sands in low-lying situations adjoining winter wet swamps (DEC, Flora Base, 2008).

The soils of the area under application are described as hard acidic, neutral, yellow and yellow mottled soils on rounded hills of the Darling Scarp (Northcote et al. 1960-68).

Given the application comprises 8 trees within a grazed area and the soils types in the local area, it is unlikely the proposed clearing will be necessary for the continued existence of rare flora and is therefore not likely to be at variance to this Principle.

Methodology DEC, Flora Base (2008);

GIS Databases:
- DEFL, SAC Bio Dataset - 22/8/07

(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 is not likely to be at variance to this Principle**

There are no known records of Threatened Ecological Communities (TECs) within 10 km radius of the proposed clearing; therefore the applied area is unlikely comprise the whole or part of, or be necessary for the maintenance of local TECs, and is therefore not likely to be at variance to this Principle.

Methodology GIS Databases:
- TEC Database, SAC Bio Dataset - 22/8/07;

(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				area (ha)
	Pre-European extent (ha)	Current extent (ha)	Remaining %	% in reserves/DEC-managed land	
IBRA Region:					
- Jarrah Forest	2,607,857	1,294,281	49.6*	33.2	
- Shire of Harvey	170,746	91,945	53.8*	3.2	
Vegetation type:					
Beard:					
- Unit 1184 (West Darling)	63,562	27,102	42.6*	54.5	
Mattiske:					
- Lowdon (Lo)	170,364	86,394	50.7**	N/A	
Heddele:					
- Lowdon	N/A	N/A	N/A	N/A	

* (Shepherd, 2006)

** (Mattiske & Havel, 1998)

The area under application is located in the Shire of Harvey in the Southern Jarrah Forest Bioregion, which retain approximately 53.8% and 49.6% (Shepherd, 2006), respectively of the pre-European extent.

The area under application is mapped as the Lowdon complex, which retains less approximately 50.7% of the pre-European extent (Mattiske & Havel, 1998).

Given the application comprises 8 trees within a grazed area and the remaining vegetation in the local area (40% in 10 km radius), the proposed clearing is not considered significant remnant vegetation in an extensively cleared area and is therefore not at variance to this Principle.

Methodology Shepherd (2006);
Mattiske & Havel (1998);

GIS databases:

- Interim Biogeographic Regionalisation of Australia - EM 18/10/00;
- Mattiske Vegetation - CALM 24/3/98;
- Heddele Vegetation Complexes - DEP 21/6/95;
- Pre-European Vegetation - DA 01/01;
- Local Government Authorities - DLI 8/7/04

(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**
The area under application is located on a tributary of the Brunswick River for the purpose of dam construction; therefore the area under application is within an environment associated with a watercourse.

Given the above, the proposal is at variance to this Principle; however the completely degraded (Keighery, 1994) condition of the area has significantly modified the value of the native vegetation and therefore the association with this watercourse.

Methodology GIS Databases:
- Hydrography, Linear - DoE 1/2/04;
- Bunbury 50cm ORTHOMOSAIC - DLI04

(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 of the area under application are described as hard acidic, neutral, yellow and yellow mottled soils on rounded hills of the Darling Scarp (Northcote et al. 1960-68).

The groundwater salinity is 500 to 1000 mg/L and the hydrogeology consists of rocks of low permeability with local aquifers in fractured and weathered rocks.

Given the application comprises 8 trees within a grazed area, the level of groundwater salinity and hydrogeology, the proposed clearing is not likely to cause appreciable land degradation and therefore is not likely to be at variance to this Principle.

Methodology Northcote et al. (1960-68);

GIS Databases:

- Salinity Risk LM25m - DOLA 00;
- Hydrogeology, Statewide - DoW;
- Groundwater Salinity, Statewide - DoW

(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 area under application does not lie within or adjacent to areas set aside for conservation. Given the application comprises 8 trees within a grazed area, the proposed clearing is not likely to impact on the environmental values of any nearby areas managed for conservation.

Methodology GIS Databases:

- Register of National Estate - EA 28/01/03;
- 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 likely to be at variance to this Principle

The area under application falls within the Leschenault Estuary - Lower Collie water catchment area. This area is not managed as a Public Drinking Water Source Area (PDWSA).

The local area has an average annual rainfall 1100 to 1200 mm with regional groundwater salinity ranging between 500 to 1000 mg/L. The area under application is located approximately 450m west of the Lunenburg River watershed.

The slope of the land under application is 85 to 90 metres AHD (Australian Height Datum) over 150 metres.

Given the application comprises 8 trees within a grazed area, the low gradient slope and the remaining surrounding vegetation in the local area (40% in 10 km radius), the proposed clearing is not likely to cause deterioration in the quality of surface or underground water and is therefore not likely to be at variance to this Principle.

Methodology GIS Databases:

- Hydrographic Catchments, Catchments - DoW;
- Rainfall, Mean Annual - DoW;
- Groundwater Salinity, Statewide - DoW;
- Geomorphic Wetlands, Augusta to Walpole - DoE 18/6/03;
- Public Drinking Water Source Areas (PDWSA) - DoW;
- CALM Managed Lands and Waters - CALM 1/07/05

(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 likely to be at variance to this Principle

Given the application comprises 8 trees within a grazed area and the remaining surrounding vegetation in the local area (40% in 10 km radius), the proposed clearing is unlikely to cause or exacerbate the incidence or intensity of flooding and is therefore not likely to be at variance to this clearing principle.

Methodology GIS Databases:

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

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

Comments

The area under application is located within the Wokalup Creek surface water catchment area gazetted for surface water management under the Rights In Water and Irrigation (RIWI) Act 1914. The Department of Water (2008) advises that a permit to obstruct or interfere (PMB) has been granted for this proposal.

No public submissions have been received to date for this proposal.

Methodology DoW (2008);

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Dam construction or maintenance	Mechanical Removal	8	<p>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:</p> <ul style="list-style-type: none">- at variance to Principle (f); and- not or not likely to be at variance to the remaining clearing Principles.

5. References

- Department of Environment and Conservation (DEC), Florabase (2008) <http://florabase.dec.wa.gov.au/browse/profile/13619>. (Retrieved 29 January 2008).
- Department of Water (DoW) (2008). TRIM Ref: DOC46781.
- Havel, J. and Mattiske Consulting Pty Ltd, (2002). Review of management options for poorly represented vegetation complexes. Conservation Commission.
- Heddl, 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, E.M. and Havel, J.J. (1998). Vegetation mapping in the South West of Western Australia. Department of Conservation and Land Management, Perth.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Sac Bio Datasets (22/8/07). Department of Environment and Conservation, Sac Bio Datasets, Kensington, 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.

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)

