



1. Application details

1.1. Permit application details

Permit application No.: 2229/1
 Permit type: Area Permit

1.2. Proponent details

Proponent's name: Max Stephen Stewart Fry

1.3. Property details

Property: LOT 123 ON DIAGRAM 7629 (Lot No. 13374 SOUTH WESTERN BENDER 6223)
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 LOT 123 ON DIAGRAM 7629 (Lot No. 13374 SOUTH WESTERN BENDER 6223)
 LOT 123 ON DIAGRAM 7629 (Lot No. 13374 SOUTH WESTERN BENDER 6223)
 LOT 420 ON PLAN 302429 (House No. 12311 SOUTH WESTERN BENDER 6223)
 LOT 420 ON PLAN 302429 (House No. 12311 SOUTH WESTERN BENDER 6223)
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Local Government Area: Shire Of Harvey
 Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
	30	Mechanical Removal	Miscellaneous
		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 968: Medium woodland: jarrah, marri & wandoo (Shepherd, 2006; Hopkins et al. 2001).	The proposal involves clearing approximately 30 scattered paddock trees. The area appears to have been recently mined.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	The description of the clearing application area is based on orthomosaic mapping.

Hedde Vegetation Complex: Guildford Complex: mixture of an open-forest of marri-jarrah-wandoo, with minor components including fringing woodland of E. rudis-M. raphiophylla along the streams (Hedde et al. 1980).

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 approximately 30 scattered paddock trees for the purpose of constructing a centre pivot. The vegetation under application appears to be in completely degraded condition (Keighery, 1994).

 Given the application consists of scattered paddock trees in a recently mined area the proposed clearing 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 approximately 30 scattered paddock trees for the purpose of constructing a centre pivot. The vegetation under application appears to be in completely degraded condition (Keighery, 1994).

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

Given the condition of the vegetation under application and the percentage of 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

Several populations of *Diuris purdiei* (DRF), *Drakaea micrantha* (DRF), *Drakaea elastica* (DRF), and numerous other priority flora populations have been recorded within a 10 km radius of the area proposed for clearing.

Diuris purdiei, *Drakaea micrantha* and *Drakaea elastica* are all tuberous, perennial herbs that flower in September to October (*Drakaea elastica* Oct-Nov). All three species occur in white-grey sands adjoining winter-wet swamps (DEC, Flora Base, 2008).

The soils of the area under application are described as sandy acidic yellow mottled soils, sometimes containing ironstone gravels (Northcote et al. 1960-68).

The local area is approximately 40% vegetated, with the majority of that vegetation managed by DEC as State Forest and National Park.

Given the application consists of scattered paddock trees, the percentage of surrounding local vegetation, and the soil 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 Northcote et al. (1960-68);
DEC Flora Base (2008);

GIS Databases:
- DEFL, SAC Bio Dataset - 22/8/07;
- Soils, Statewide - DA 11/99;
- CALM Managed Lands and Waters - CALM 1/6/04

(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

One population of the community type "SCP09 - Dense shrublands on clay flats", and one population of the community type "Muchea limestone" are currently known to occur within a 10 km radius of the proposed clearing.

"SCP09 - Dense shrublands on clay flats" has been recorded predominantly on Guildford clays within the Pinjarra Plain; "Muchea limestone" is known to occur mainly on sandy / clay loams over limestone (TEC Database).

The soils of the area under application are described as sandy acidic yellow mottled soils, sometimes containing ironstone gravels (Northcote et al. 1960-68).

Given the soils of local TECs are inconsistent with those of the area under application; the applied area is unlikely to 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 Northcote et al. (1960-68);

GIS Databases:

- TEC Database, SAC Bio Dataset - 22/8/07;
- Threatened Ecological Communities - CALM

(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

Pre-European	Current extent (ha)	Remaining %	% in reserves/DEC-managed land	area (ha)
Swan Coastal Plain	1,501,211	579,227	38.6*	24.1
Shire of Harvey	170,746	91,945	53.8*	3.2
Vegetation type:				
Beard:				
Unit 968 (Pinjarra)	296,877	97,572	32.9*	33.3
Heddle:				
Guildford Complex	92,497	4,662	5.0**	0.2

* (Shepherd, 2006)

** (EPA, 2006)

The area under application is located on the Swan Coastal Plain in the Shire of Harvey. The extent of pre-European vegetation remaining in these areas is 38.6% and 53.8%, respectively (Shepherd, 2006).

The applied area forms part of Beard Vegetation Association 968; which has been heavily cleared on the Swan Coastal Plain (6.2% of the pre-European extent remaining; Shepherd, 2006). It is also noted the Guildford complex retains 5.0% of pre-European extent, with less than 1% managed for conservation (EPA, 2006).

The completely degraded condition of the vegetation under application has significantly modified the value of the vegetation and its significance as a remnant within an extensively cleared area. The proposed clearing therefore may be at variance to this principle.

Methodology Shepherd (2006);
EPA (2006);
Keighery (1994);

GIS databases:

- Interim Biogeographic Regionalisation of Australia - EM 18/10/00;
- Heddle Vegetation Complexes - DEP 21/06/95
- 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 not likely to be at variance to this Principle

Several drains and channels run through the area under application; however the completely degraded (Keighery, 1994) condition of the applied area has significantly modified the value of these areas.

Benger Swamp, which has been recognised as being of national importance (ANCA, 1996), is located approximately 1.4 kilometres west of the applied area; however the area under application is unlikely to contribute to the environmental values of the wetland, given the completely degraded (Keighery, 1994) condition.

Methodology Keighery (1994);
ANCA (1996);

GIS Databases:

- Hydrography, Linear - DoE 1/2/04;
- Geomorphic Wetlands, Augusta to Walpole - DoE 18/6/03;
- 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 sandy acidic yellow mottled soils, sometimes containing ironstone gravels (Northcote et al. 1960-68).

The groundwater salinity is 3000 to 7000 mg/L and the hydrogeology consists of shallow aquifers with surficial sediments.

Given the application consists of scattered paddock trees and the surrounding vegetation in the local area (40% in 10 km radius), the proposed clearing is not likely to cause appreciable land degradation and is therefore not likely to be at variance to this Principle.

Methodology Northcote et al. (1960-68);

GIS Databases:

- Hydrogeology, Statewide - DoW;
- Groundwater Salinity, Statewide - DoW;
- CALM Managed Lands and Waters - CALM 1/07/05

(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

Benger Swamp, located approximately 1.4 kilometres west, and several DEC managed tenure are located within a 10 km radius of the area under application. Benger Swamp is recognised as a defined wetland of national importance (ANCA, 1996).

Given the application consists of scattered paddock trees and the percentage of surrounding vegetation in the local area (40% in 10 km radius), the proposed clearing is not likely to impact on the environmental values of any nearby conservation areas.

Methodology ANCA (1996);

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 soils of the area under application are described as sandy acidic yellow mottled soils, sometimes containing ironstone gravels (Northcote et al. 1960-68).

The local area has an average annual rainfall between 1000 - 1100 mm with regional groundwater salinity ranging between 3000 to 7000 mg/L.

The slope of the area under application is 20 to 35 metres AHD (Australian Height Datum) over 1.6 kilometres.

Given the application consists of scattered paddock trees and the percentage of 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 Northcote et al. (1960-68);

GIS Databases:

- Hydrographic Catchments, Catchments - DoW;
- Rainfall, Mean Annual - DoW;
- Groundwater Salinity, Statewide - 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 consists of scattered paddock trees and the percentage of surrounding vegetation in the local area (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;
- Topographic Contours, Statewide - DOLA 12/9/02

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

Comments

Lots 123 and 420 are located within the Harvey Irrigation District. The proponent has an entitlement with Harvey Water to source water from the Harvey Water piped scheme.

The Shire of Harvey (2008) advises it has no objection to the proposal.

No public submissions have been received for this proposal.

Methodology Shire of Harvey (2008)

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Miscellaneous	Mechanical Removal	30	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: - maybe at variance to Principle (e); and - is not or is not likely to be at variance to the remaining clearing Principles.
Miscellaneous	Mechanical Removal		

5. References

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

DEC, Florabase (2007) <http://florabase.dec.wa.gov.au/browse/profile/13619>. (Retrieved 29 January 2008).

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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.

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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.

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)