



1. Application details

1.1. Permit application details

Permit application No.: 1987/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Denmark Clay Target Club

1.3. Property details

Property: PLANTAGENET LOCATION 7399 (Lot No. 7236 SUNNY GLEN HAY 6333)
Local Government Area: Shire Of Denmark
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.05		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
<p>Beard Vegetation Association 977 in Jarrah Forrest Bioregion: Low forest; teatree & casuarina.</p> <p>Mattiske Vegetation complexes:</p> <ul style="list-style-type: none"> - Sedimentary Valleys (V8): Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla on slopes and woodland of Eucalyptus occidentalis-fs24 Melaleuca cuticularis on lower slopes in perhumid and humid zones. - Valley Terrace (t): Tall shrubland and closed heath of Agonis spp. on valley floors in hyperhumid to humid zones. <p>Mattiske Vegetation complexes:</p> <ul style="list-style-type: none"> - Sedimentary Valleys (V8): Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla on slopes and woodland of Eucalyptus occidentalis-fs24 Melaleuca cuticularis on lower slopes in perhumid and humid zones. - t: Woodland of Eucalyptus marginata subsp. marginata-Corymbia calophylla with some Allocasuarina fraseriana on mild slopes in the perhumid zone. 	<p>The application proposes to clear 0.05ha of native vegetation considered to range from Degraded to Excellent condition (Keighery 1994; Site Visit Report 2007). Much of the area under application was cleared 12 - 14 years ago. The area consist mostly of mid and lower storey regrowth vegetation.</p>	<p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)</p>	<p>References: Vegetation condition was determined from Site Visit Report (2007) and aerial photography (Denmark 1m Orthomosaic - DOLA 01). - Mattiske Consulting (1998) - Shepherd et al. (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**
The application proposes to clear 0.05ha of native vegetation considered to range from Degraded to Excellent condition (Keighery 1994; Site Visit Report 2007). Thirty six native flora species were recorded during the site visit. Due to previous clearing, the shrub, heath and sedge components of the original vegetation type - Medium Forest Beard vegetation Association 3 have regenerated, however the overstorey tree component is largely absent. There are also dampland species present including *Melaleuca preissiana*, *Johnsonia lupulina*, *Meeboldinia scariosus*, and *Lepidosperma angustatum* (Site Visit Report 2007).

Given this, and that the area occurs in a landscape where 65 - 70% of native vegetation remains within 10km radius of subject area, and is surrounded by areas reserved for conservation, it is unlikely that the proposed clearing would comprise a higher level of biological diversity than the surrounding vegetation.

Methodology Site Visit Report (2007)
Keighery, B.J. (1994)
GIS datasets:
- Denmark 1m Orthomosaic - DOLA 01

(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 application proposes to clear 0.05ha of native vegetation considered to range from Degraded to Excellent condition (Keighery 1994; Site Visit Report 2007). Eight native fauna species have been identified to occur within 10km radius of area under application, the closest being Western False Pipistrelle (*Falsistrellus mackenziei*), located 5km north of subject area.

The area proposed for clearing comprises a very small part of a widely occurring habitat which is important for native fauna species. Location 7399 which forms part of Timber Reserve 202/25 (a proposed forest conservation area under the Walpole Wilderness Area Management Plan) is part of a large continuous vegetated link between the former Sheepwash block (now proposed as a national park) to the north; Hay Block East (now proposed as part national park and part forest conservation area) and unmanaged Reserve Number A23579, which contains the lower reaches of the Hay River (Site Visit Report 2007).

Given this information, that most of the area under application is surrounded by nature reserves, which are likely to provide significant habitat for fauna, it is unlikely that the small area under application would be considered to be necessary for the maintenance of significant habitat for fauna.

Methodology SAC Biodatasets 281107
Site Visit Report (2007)
Keighery, B.J. (1994)
GIS datasets:
- Denmark 1m Orthomosaic - DOLA 01

(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**
The application proposes to clear 0.05ha of native vegetation considered to range from Degraded to Excellent condition (Keighery 1994; Site Visit Report 2007). No known recordings of Declared Rare Flora (DRF) or priority flora occur within the area proposed for clearing, however *Andersonia* sp. Mitchell River (BG Hammersley 925) (P1 species) is known to occur in nearby sites, however, no occurrence of this species was found in the area proposed for clearing. *Andersonia hammersleyana* Lemson ms is also known from locations generally within Mount Lindesay National Park, DEC FloraBase (2007), however, the environment within the area proposed for clearing is different from that where this latter species occurs and was not found (Site Visit Report 2007).

Nine priority flora species and one DRF species have been identified as occurring within 10km radius of subject area (local area) from GIS databases. However, given the small scale of the proposed clearing and that 65 - 70% of native vegetation remains within the local area, it is unlikely that the area under application would be necessary for the continued existence of rare or priority flora.

Methodology SAC Biodatasets 031207
Site Visit Report (2007)

Keighery, B.J. (1994)
 GIS datasets:
 - Denmark 1m Orthomosaic - DOLA 01

(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 recordings of Threatened Ecological Community (TEC) or Priority Ecological Communities (PEC)s within 10km radius of area under application. Given this, it is highly unlikely that the small area (0.05ha) under application would be necessary for the maintenance of TECs.

Methodology SAC Biodatasets 031207

(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**

Pre-European	Current	Remaining Extent*	Current area (ha) *	Status** extent (%)*	Extent Cons %*
Shire of Denmark		191156***	159071***	83.2***	Least concern
Beard Veg Assoc 977:		271	127	47.0	Depleted
IBRA Bioregion - Jarrah Forest:		4506654	2405331	53.4	Least concern
Beard Veg Assoc 977:		263	126	48.0	Depleted
From Mattsike Consulting (1998):					
Sedimentary Valleys (V8):		45919	34039	74.1	Least concern
Valley Terrace (t):		37338	26564	71.1	Least concern

* Shepherd (2006)
 ** Department of Natural Resources and Environment (2002)
 *** Shepherd (2002)

The area under application is located in the Shire of Denmark and within the Jarrah Forest Bioregion. The extent of pre-European vegetation within these areas is 83.2% and 53.4%, respectively (Shepherd et al., 2001; Shepherd, 2006).

The vegetation proposed to be cleared is a component of Beard Vegetation Association 977 (Hopkins et al., 2001) of which there is 47.0% remaining regionally, and 48.0% remaining locally (Shepherd, 2006). These vegetation types are considered to have a conservation status of Depleted (Department of Natural Resources and Environment, 2002).

The area under application forms a component of Mattsike Vegetation Type Sedimentary Valleys (V8) and Valley Terrace (t), which are considered to have a conservation status of Least concern (Department of Natural Resources and Environment 2002).

These figures are well above the State Governments 30% National Objectives Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-1750 (EPA 2000).

Given the relatively high vegetation representation within these areas, it is unlikely that the vegetation under application (0.05ha) would be considered as a significant remnant in an extensively cleared area.

Methodology Department of Natural Resources and Environment (2002)
 EPA (2000)
 Shepherd, D.P. (2006)
 Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2002)
 GIS datasets:
 - Denmark 1m Orthomosaic - DOLA 01
 - Pre-European Vegetation - DA 01/01
 - Interim Biogeographic Regionalisation of Australia - EA 18/10/00
 - Mattsike Vegetation - CALM 24/3/98

(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 may be at variance to this Principle

The vegetation under application proposed to be cleared is approximately 450m north west of the Hay River. There is a minor, perennial watercourse, located 270m south, and 290m north of subject area. There is a major, perennial watercourse located 425m south east of the subject area. Species identified during the site visit include: *Melaleuca preissiana*, *Johnsonia lupulina*, *Meeboldinia scariosus*, and *Lepidosperma angustatum* (Site Visit Report 2007). *Melaleuca preissiana* occurs in swampy areas and *Johnsonia lupulina* can occur in damp locations (WA herbarium 2007). Given this, the area under application may be considered to consist of riparian vegetation and the vegetation under application may be considered to be growing in association with a watercourse or wetland.

Methodology GIS datasets:
- Hydrography, linear - DOE 1/2/04
- Hydrography, linear (hierarchy) - DOW
WA Herbarium 2007

(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

Given the small scale of proposed clearing (0.05ha), in a landscape where 65 - 70% of native vegetation remains within 10km radius of subject area, and is surrounded by areas reserved for conservation, it is unlikely that the proposed clearing would cause appreciable land degradation.

Methodology GIS datasets:
- Denmark 1m Orthomosaic - 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 not likely to be at variance to this Principle

The area proposed for clearing is part of Timber Reserve Number 202/25. There is no timber harvesting within the reserve. It is proposed as a Forest Conservation Area under the Walpole Wilderness Area Management Plan (Site Visit Report 2007). There are three areas reserved for conservation within 10km radius of area under application: Sheepwash Block which is part of State Forest Number 64 and is proposed as a national park under the WWA DMP and is contiguous with T⁭R 202/25 (Site Visit Report 2007), and is located approximately 600m east; Mt Lindesay National park, located 1.1km north and the Denbarker area, on the Register of National Estate, located 1.8km north of the subject area. However, given the very small scale of clearing proposed (0.05ha), it is unlikely that the proposed clearing would have an impact on the environmental values of any conservation areas.

Methodology Site Visit Report (2007)
GIS datasets:
- Denmark 1m Orthomosaic - DOLA 01
- CALM Managed Lands and Waters - CALM 1/07/05
- Register of National Estate - EA 28/01/03

(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

Given the small scale of proposed clearing (0.05ha), in a landscape where 65 - 70% of native vegetation remains within 10km radius of subject area, and is surrounded by areas reserved for conservation, it is unlikely that the proposed clearing would cause deterioration in the quality of surface or underground water.

Methodology GIS datasets:
- Denmark 1m Orthomosaic - DOLA 01

(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 subject area is situated at an elevation of approximately 20m AHD which gently slopes towards the Hay River to the east. It is not situated in an area prone to flooding (Site Visit Report 2007). Given the small scale of proposed clearing (0.05ha), in a landscape where 65 - 70% of native vegetation remains within 10km radius of subject area, and is surrounded by areas reserved for conservation, it is unlikely that the proposed clearing would cause, or exacerbate the incidence or intensity of flooding.

Methodology Site Visit Report (2007)

GIS datasets:

- Denmark 1m Orthomosaic - DOLA 01
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

There is one Native Title claim over the area under application, but as the property is privately owned, the granting of the clearing permit is a secondary approval and does not constitute a future act under the Native Title Act 1993.

Methodology

4. Assessor's comments

Purpose	Method Applied	area (ha)/ trees	Comment
Miscellaneous	Mechanical Removal	0.05	The assessment has demonstrated that the proposal may be at variance to Principle (f); is not likely to be at variance with clearing Principle (a), (b), (c), (d), (e), (g), (h), (i) and (j).

5. References

- Department of Environment and Conservation (2007) Site Visit Inspection Report. TRIM ref: DOC37869, DOC37870
- 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.
- 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.
- Western Australian Herbarium, Department of Environment and Conservation. Florabase (<http://florabase.dec.wa.gov.au/>). Accessed 11 December 2007.

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)