



1. Application details

1.1. Permit application details

Permit application No.: 2722/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Cotton Holdings Pty Ltd

1.3. Property details

Property: LOT 70 ON PLAN 29152 (WELLESLEY 6233)

Local Government Area: Shire Of Harvey

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
	320	Mechanical Removal	Extractive Industry

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 6: Medium woodland; tuart & jarrah (Shepherd et al. 2001).	The vegetation of the clearing application area consists of widely spaced individual trees and small groves of trees (parkland cleared). There is no native understorey or ground cover remaining. The vegetation is comprises a grassland (of introduced species) with emergent trees consisting of Agonis flexuosa (Peppermint), Eucalyptus marginata (Jarrah) and Corymbia calophylla (Marri). Peppermint is most common, making up at least 60 to 70% of the total trees present. (Harewood, 2007)	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	Description extracted from the Landform and Vegetation Description report prepared by G. Harewood (Harewood 2007).
Heddlle Vegetation Complex: Karrakatta Complex - central and south (49). Predominantly open forest of E. gomphocephala - E. marginata - E. calophylla and woodland of E. marginata - Banksia species.			

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 proposal is for the clearing of 320 trees consisting of Agonis flexuosa (Peppermint), Eucalyptus marginata (Jarrah) and Corymbia calophylla (Marri) in completely degraded (Keighery, 1994) condition (DEC, 2007; Harewood, 2007).

The local area retains approximately 45% native vegetation which includes large intact vegetation remnants in close proximity to the applied area.

Given that the vegetation under application is in a completely degraded (Keighery, 1994) condition and taking into account that there are nearby areas in better condition than the applied area, the vegetation under application is not likely to have a high level of biological diversity in a local context.

Methodology References:
 DEC (2007)
 DEC (2008)

Harewood (2007)
Keighery (1994)

GIS Database:
Bunbury 50cm Othomosaic Landgate 2006
NLWRA, Current Extent of Native Vegetation 20 Jan 2001
SAC Biodatasets - accessed 21 October 08

(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 vegetation under application is in a completely degraded (Keighery, 1994) condition and the local area retains approximately 45% native vegetation cover, much of which is in better condition than the applied area (DEC, 2007). The application area is parkland cleared with all mature aged Marri (*Corymbia calophylla*), Peppermint trees (*Agonis flexuosa*) and Xylomelum over pasture grass. Grazing is still taking place on the property (DEC, 2008).

A site visit was conducted on 11th April 2007 by DEC. A check was done for evidence (grazing/scats) of Western Ringtail Possums within the road reserve and the Peppermint trees within the application area and there were no signs of Ringtails within either of these areas. There were no large senescent trees with tree hollows observed within the application area (DEC, 2008).

Given that the vegetation under application does not support any restricted endemics and taking into account that there is more suitable habitat for native fauna within the local area (10km radius), the area under application is not likely to be significant habitat for fauna indigenous to Western Australia.

Methodology References:
DEC (2007)
Keighery (1994)
DEC (2008)

GIS Database:
Bunbury 50cm Othomosaic Landgate 2006
NLWRA, Current Extent of Native Vegetation 20 Jan 2001
SAC Biodatasets - accessed 21 October 08

(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 5 known records of rare flora within the local area (10km radius), two of which grow in the same soil and vegetation type as the applied areas, namely *Drakaea micrantha* and *Caladenia procera* (WA Herbarium, 1998-).

It is highly unlikely that any rare or priority flora species exist within the applied clearing area (DEC, 2008). No rare flora or priority species were noted during the previous site visit in April 2007 and as the area was still being grazed at this time the likelihood of any flora of conservation significance occurring in this area is very low (DEC, 2008).

Given the above information it is unlikely any rare flora occur within the area under application and therefore is not likely to be at variance to this principle.

Methodology References:
DEC (2007)
DEC (2008)
WA Herbarium (1998-)

GIS Database:
SAC Biodatasets - accessed 21 October 08

(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

Two Threatened Ecological Communities (TECs) have been identified within the local area (10km radius). These communities are: "Dense Shrublands on Clay Flats" (SCP09) and "Shrublands and Woodlands on Muchea Limestone" (Muchea Limestone).

The soils of the application area have been described as bleached or pale sands with yellow-brown or pale-brown subsoil (Harewood, 2007). These soil types are not characteristic of those described for the aforementioned TECs.

Given the distance to the nearest TEC (4.3km), different habitat characteristics (ie soils) and the completely degraded (Keighery, 1994) condition of the vegetation under application, the clearing as proposed is not likely to be at variance to this principle.

Methodology References:
Harewood (2007)
Keighery (1994)

GIS Databases:
SAC Biodatasets - accessed 21 October 08

(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 area (ha)	Current extent (ha)	Remaining % managed land	% in reserves/DEC-
IBRA Bioregion **				
- Swan Coastal Plain LGA	1,501,208	583,140	38.84	32.55
- Shire of Harvey*	171,210	92,376	53.96	72.24
Beard vegetation associations**				
- 6	56,343	14,749	26.18	34.27
Hedde Vegetation Complex***				
-Karrakatta Complex Central and South	49,912	14,729	29.5	N/A

* (Shepherd et al., 2001; Hopkins et al., 2001)

** (Shepherd, 2007)

*** (Hedde et al., 1980)

The local area has approximately 45% native vegetation remaining and ground truthing of the mapped vegetation type identified the area under application as being *Agonis flexuosa* (Peppermint), *Eucalyptus marginata* (Jarrah) and *Corymbia calophylla* (Marri) woodland, not medium woodland Tuart and Jarrah (DEC, 2007; Harewood, 2007).

Given the completely degraded condition of the vegetation and taking into account the large intact remnants of vegetation nearby, the clearing as proposed is not likely to be at variance to this principle.

Methodology References:
DEC (2007)
Harewood (2007)
Hedde et al. (1980)
Hopkins et al. (2001)
Shepherd et al. (2001)
Shepherd (2007)

GIS Databases:
Pre-European Vegetation - DA 01/01
Hedde Vegetation Complexes - DEP 21/06/95
Bunbury 50cm Othomosaic Landgate 2006
NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(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**
There are no mapped wetlands or watercourses within the applied area (Harewood, 2007). The closest known watercourse is approximately 370m west of the applied area and the closest wetland is approximately 400m west of the applied area.

Given the distance to the nearest wetland or watercourse the vegetation under application is not likely to be growing in association with either environment and therefore the clearing as proposed is not likely to be at variance to this principle.

Methodology References:
Harewood (2007)

GIS Databases:
Bunbury 50cm Othomosaic Landgate 2006
Hydrography linear - DOW 13/7/06
Geomorphic wetlands - Swan Coastal Plain - DOE 15/09/04

(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 Department of Agriculture and Food Western Australia (DAFWA) has previously provided advice for the clearing as proposed originally (CPS 1587/1) which raised no potential land degradation issues for this proposal (DAFWA 2007).

No environmental factors are known to have changed since the time this advice was provided, therefore the proposal is not likely to cause appreciable land degradation based on previous DAFWA advice.

Methodology References:
DAFWA (2007)

GIS Databases:
Average Annual Rainfall Isohyets - WRC 29/09/98
Annual Evaporation Contours (Isopleths) - WRC 29/09/98
Hydrogeology, statewide - DOW 13/07/06
Hydrography, linear - DOW 13/7/06
Salinity Risk LM 25m - DOLA 00
Soils, Statewide DA 11/99
Topographic contours statewide - DOLA and ARMY 12/09/02

(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 may be at variance to this Principle**

There are 15 areas of conservation significance within the local area (10km radius), the closest of which being a System 6 conservation reserve (550m north west).

EPA Bulletin 1108 (2003, Appendix 10) identifies part of the area under application as being significant remnant vegetation requiring conservation, this vegetation is part of the McLarty/Kemerton/Twin Rivers/Preston River/Gwindinnup ecological link (EPA, 2003; Appendix 4)

Given that the area under application is supporting vegetation to an ecological linkaged and taking into consideration the completely degraded condition (Keighery, 1194) of the vegetation, the clearing as proposed may be at variance to this principle.

Dieback and weed management conditions will be placed on the permit to prevent the spread of disease and weeds into nearby conservation areas.

Methodology References:
EPA (2003)

GIS Databases:
CALM Managed Lands and Waters - CALM 01/06/05
Hydrography, linear - DOW 13/7/06
Register of National Estate - Environment Australia, Australian and world heritage division 12 Mar 02
System 1 to 5 and 7 to 12 areas ? DEC 11/7/06
System 6 Conservation Reserves 1/2/1993

(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 vegetation under application is not likely to be associated with a wetland or watercourse and clearing of the vegetation under application is not likely to result in sedimentation of surface water as the soils within the

applied area are highly porous and will not support sufficient overland flow (Harewood, 2007).

Given that there are nearby areas of intact vegetation in better condition than the applied area, and taking into account the completely degraded (Keighery, 1994) condition of the vegetation, the clearing as proposed is not likely to cause deterioration in the quality of surface or underground water.

Methodology References:
Harewood (2007)

GIS Databases:
Bunbury 50cm Othomosaic Landgate 2006
Hydrography linear - DOW 13/7/06
Geomorphic wetlands - Swan Coastal Plain - DOE 15/09/04
Groundwater Salinity Statewide DoW 13/07/06

(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 vegetation under application is in a completely degraded (Keighery, 1994) condition with much of the land being parkland cleared (Harewood, 2007).

The soils under application are mapped as being chiefly leached sands (Cb39; Northcote et al., 1960-1986), these soils are highly porous (Harewood, 2007) therefore excess water is not likely to pool on the surface.

Given the vegetation retention in the local area is approximately 45% and taking into account the soils and condition of the vegetation under application, the clearing as proposed is not likely to be at variance to this principle.

Methodology References:
Harewood (2007)
Keighery (1994)
Northcote et al (1960-1986)

GIS Database:
Bunbury 50cm Othomosaic Landgate 2006
Hydrography linear - DOW 13/7/06
Soils, Statewide DA 11/99
Topographic contours statewide - DOLA and ARMY 12/09/02

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

Comments

Planning permission and an extractive industry licence has been granted by the Shire of Harvey (DOC66608).

The boundary of one Aboriginal Site of Significance intersects the proposed area for clearing. Aboriginal Sites of Significance will need to be managed in accordance with requirements under the Aboriginal Heritage Act 1972 and with the Department of Indigenous Affairs.

The area under application lies within the Greater Bunbury Regional Scheme (GBRS) and within the Kemerton Industrial Park Strategy Plan (KIPS). Under the GBRS the area under application has been identified as having potential conservation value, however it has also been recognised as being cleared. In addition the KIPS the proposed clearing is zoned as exclusion of public recreation and ridge landscape priority, acting as a buffer for the Industry Core.

A public submission was received regarding this proposal, all issues raised in the submission have been addressed under the relevant clearing principles (DOC66431).

Methodology References:
EPA (2003)
EPA (1999)

GIS Database:
Aboriginal Sites of Significance - DIA

4. Assessor's comments

Comment

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 may be at variance with principle (h) and is not likely to be at variance with principles (a), (b), (c), (d), (e), (f), (g), (i) and (j).

5. References

- DAFWA (2007) Advice to assessing officer from Department of Agriculture and Food Western Australia, Land Degredation Advice, unpublished document, DOC13112.
- DEC (2007) Site Inspection Report, Department of Environment and Conservation, unpublished report, DOC25570.
- Harewood (2007) Development Plan to support the Extractive Industry Licence application for Lot 70 Wellesley Road North - Wellesley, Shire of Harvey, consultants report prepared on behalf of Cotton Holding Pty Ltd, DOC65986.
- 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.
- 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.
- Shepherd, D.P. (2007). 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.
- Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 21/10/2008).

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)